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THE

CULTIVATOR,

A MONTHLY JOURNAL, DEVOTED TO

AGRICULTURE, HORTICULTURE, FLORICULTURE,

AND TO

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DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH ENGRAVINGS OF

FARM HOUSES AND FARM BUILDINGS, IMPROVED BREEDS OF
CATTLE, HORSES, SHEEP, SWINE AND POULTRY,
FARM IMPLEMENTS, DOMESTIC
UTENSILS, &c.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, JANUARY, 1850. VOL. VII.—NO. 1.

Letter from Prof. Norton.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Dec. 1, 1849.

EDITORS CULTIVATOR—It is with much pleasure, that I once more commence a series of regular contributions to your columns. My Letters from Europe, continued through nearly three years, with one intermission of three or four months, gave me a species of introduction to your numerous readers, which has since, in many cases, proved not only agreeable, but useful.

In attempting to renew, and as I hope, extend my acquaintance, I have no longer to depend upon the novelty and variety of another continent for the interest of my communications, and must confine my descriptions for the most part, to regions which to us seem more prosaic, in our own land. Yet, after all, this lack of strange people and strange customs in my present letters, will be excused, if my endeavors to illustrate plainly and intelligibly some points of improved scientific agriculture, are successful. This will still, to many of your readers, be traveling in a new country, and writing of things that they have never seen.

The first great work of every person who elevates himself to any of the scientific departments of agriculture, when wishing to make an impression upon practical men, should be to convince them that he regards practice in its proper light; that the results of intelligent experience are always considered by him worthy of attention. Let me then say at once, that I look upon science as an auxiliary to practice. We all know that good corn and wheat may be grown, and have been grown, by men who scorn the very name of science; that large cattle may be fatted, that good plowing may be done by them. We know that the world has been fed even to this day, by the skill of farmers, who would be called by some scientific enthusiasts, men utterly ignorant of first principles. So they were of first scientific principles; they could not mention in scientific language, the proper angle at which the axe should enter the tree, but they could show it sunk to the helve; they could not name the substances that make up the straw and grain of wheat, but could point to fields yellow for the harvest; they could furnish food for themselves and families, where Liebig and Johnston together, with all their science, would find it difficult, unassisted, to sustain even their own lives.

Thus much I acknowledge, practice can do without science, but science cannot do without practice. The question now comes up, would not both be benefitted by union? I have said that practice *can* do without science, but would it not *do better* with its assistance? The practical man can raise good crops and good animals, can keep his farm supplied with good implements, but could he not work to better advantage and with more certainty, if he knew more as to the nature of his animals, the composition of his crops and soils? Can any reasonable man deny that knowledge upon these points, would be an immense advantage to him in every department of his farming operations? The most prejudiced opponent of innovation, will, I think, scarcely attempt to controvert this general proposition. Once admitted, they cannot consistently refuse attention to an explanation of particular points, to proofs that a majority of practical men are ignorant of much that they ought to know, even with regard to common details of their profession. After what has already been written, this remark will not be misunderstood; it will be seen that I do not intend to decry practice, but to say that it is far from perfect, and may be decidedly improved by the addition of a little scientific knowledge.

It may be objected that this knowledge is unintelligible to the ordinary farmer; that it only confuses, and thus leads him into numberless errors; but I think that the main features involved in the applications of science, may be made simple and plain to all; this has been proved in the works of Prof. Johnston, where a vast amount of knowledge, gained by the researches of scientific men, is presented in a perfectly simple and practical form.

The great difficulty is, that most writers on such subjects introduce many hard words, and rather obscure theoretical views; these, together with an absence of direct practical application, discourage the plain farmer at the outset; he says—"I can make my living as my fathers have done, without worrying my brains over this book learning, which after all, may be perfect nonsense." My object has been and always will be, to explain everything, so that the farmer can think for himself, and can see whether any new views presented really have a practical bearing or not. The next great difficulty, after simplicity of language has been attained, lies in the fact that in a single letter, it is impossible to embrace all of any particular subject or department. There are some points almost always left unexplained, or some details omitted, which are necessary to the uninstructed reader. For this reason, I have decided to take up a particular subject, and continue it through several letters, or as many as may seem needful. Among those that have occurred to me, one of the most important, as well as interesting to the farmer, is that of manures. Some readers may think this a misapplication of the word interesting, but such cannot be *true* farmers, for to all belonging to this class; the word manure is one full of attraction.

I remember a somewhat celebrated Scotch farmer, who, from experience of their effects, had come to like the odors of the most powerful manures. I once saw a bottle opened under his nose, whose contents had the vilest smell that I ever perceived, and my laboratory occupations have given me a somewhat extensive experience in that line. His countenance at once expanded in satisfaction, and he snuffed up the savoury fumes with undisguised delight; "that'll be grand stuff," said he at last, and at once inquired where it could be obtained.

I would not insist that your readers prefer such smells to fresh air, but would like to make them equally keen in their search for fertilising substances. JOHN P. NORTON.

Fall and Winter Plowing.

EDS. CULTIVATOR—The relative advantages and utility of fall or spring plowing, is a subject of vast practical importance to the farmer. Each system has its ardent and decided champions, but like every controverted question, the truth belongs exclusively to neither extreme. Either plan, under peculiar circumstances, or modifications of soil, condition and situation, may be best adapted or most desirable. My own observations and reflections have enabled me to adopt rules sufficiently clear and satisfactory for my personal guidance on this branch of farm operations. All other things being equal, fall plowing is expedient for the obvious reasons, that there is more leisure at that season, the business of the farm is not so urgent, and our teams are usually more vigorous and better prepared for the performance of severe and protracted labor.

Clay and other soils of a heavy and firm texture, should, in my judgment, be plowed in the fall, because they require the powerful and nearly indispensable agency of frost to disintegrate the earthy matter, and to decompose the vegetable substances they contain. A long period is also requisite for the operations of frost, water, and heat, by which alone these soils are effectually pulverised. The vast body of vegetation growing on the surface and embraced in the roots and fibres, which is deposited beneath the furrow in these soils, requires a long term for its decomposition. The combined agencies of all these processes in the laboratory of nature, will scarcely be sufficient, to produce the desired friability of these earths, or to effect the decomposition of the heavy turf, in season for the nourishment and vigorous growth of the young plant in the ensuing summer. I prefer to break up hard and stony ground, in the autumn, unless the work can be performed very early in the spring, while the ground is moist and loose. The reasons for this preference will be readily appreciated. The ground is softened by the autumnal rains, and is more readily and with less labor penetrable by the plow; the stones and earth are not so adhesive, and will be more effectually disturbed and exposed to the action of the elements.

The primary object, however, of this communication, is to express my dissent to the habit which is becoming more prevalent, of plowing *light* soils in the fall. Experience, and careful observation, I may assume, enables me to speak with some confidence and authority on this subject. I consider fall plowing of this class of soils, especially where sand predominates, decidedly pernicious. The loose and permeable character of the soil, peculiarly subject it, when exposed, to the action of the elements. Hence the percolation of the severe rains of autumn and spring, and the drenching thaws of winter, leach and wash these soils, and bear from them much of their fertilising substances. This consequence results not only when the soil is in its natural state, but even where strong applications of artificial manures have been made. This is technically termed the leaching of light soils. The unbroken turf preserves them from these effects, upon these soils.

In the case of a green sward, fall plowing, except on the very verge of winter, is equally and perhaps more objectionable. I have already stated the fact, that where heavy and compact sward prevails, a long period, and full action of the elements are required to subdue and prepare it to nourish and sustain vegetation. This obvious principle does not apply to the soils of which I am now speaking. The turf of these soils is not adhesive, wants tenacity and strength, and is readily broken and separated by the plow. Frost and rains more freely penetrate them, and more promptly perform their functions. The fermentation which always succeeds the covering of a grass ley, and which, in evolving the ammonia and other gases, is so eminently important in the vigorous growth of the crop, will in the event of fall plowing of light soils, have passed long before the fibres of the young plants have penetrated to its region. Much of the fertilizing influence thus produced, will be lost. The disintegration of the vegetable matter, turned in by the furrow, will have prematurely occurred, and the earth, before the roots of the plant have penetrated it, will have settled into a compact mass.

If it is proposed to occupy a sward land on light soil with Indian corn, my experience would suggest the plan of plowing it immediately before planting. The decomposition of the turf, will then occur at the period when the plant most requires its effects, and the fermentation, connected with that process, will create a genial warmth beneath the furrow, as the roots of the young shoots reach that point, and will communicate to them a rapid and vigorous impulse. This operation of nature, is accomplished in the soils to which I am referring, in a few days, but weeks, and perhaps months are necessary to effect the same results in tough, impenetrable or clayey earths. To the influence of these causes, I attribute the marked and rapid changes in the corn crop, which so often gladden the heart of the farmer, when he perceives the sickly yellow of an unpromising field, suddenly assuming the deep green, approaching the black, that mantles his field with beauty, and exhibits a growth of vigor and strength, bearing the sure earnest of a rich harvest. The roots of the plants are thus nourished by the warmth and supported by the process to which I have referred. The conclusion of my observations, is that these results would not have been attained by a fall plowing, but would have been defeated. These opinions are derived, not from speculative theory, but are formed from my own observations and experiments.

I will mention an additional fact, which has become an unchangeable principle in my system of agriculture. Under no circumstances, and at no season, will I permit a plow to disturb my sandy soils, in a period of drouth or peculiar dryness. No degree of moisture need arrest the plowman on the sand, but to plow when the dust arises from the furrow, I have found uniformly disastrous to the succeeding crop. The prevalence of subsequent rains does not appear to avert the evil consequences. I am not able to assign philosophical reasons for this effect, nor space to suggest my own speculations on the subject. The fact has been confirmed to my mind by a cause of severe disappointment and chagrin, and I allude to it for the benefit and guidance of others.

After repeated plowing of sandy soils, I have observed that an encrustation is often formed at the usual depth of the furrow, The implement glides along upon this formation as it does upon hard pan or rocky surface. It gradually becomes very firm and impervious, and presents a strong resistance to the plow. It doubtless is produced by a constant plowing at the same depth. The effect is obviously pernicious. The surface water scarcely penetrates it, while it utterly resists the process of the tender roots of grains and vegetables. Hence, unable to derive moisture from beneath this encrustation, the crop necessarily suffers more severely from the heat and drouth. This serious impediment to successful cultivation is evidently the result of bad husbandry, and can be obviated by a more judicious plowing. Without having formed an opinion from experience, my impressions are that the subsoil plow might be introduced under these circumstances of the soil with great advantage. Has this plow been introduced in the cultivation of sandy or light soils, and what are the results? W. C. W. *Port Kent, Essex County, N. Y., Dec.*, 1849.

Intellectual Improvement of the Farmer.

Crushed beneath the supposed superiority of the learned professions, and the wealth and luxuries of trade and commerce, it has been the lot of the farmer, for many years, to find himself looked upon as an inferior man.

That farmers as a class have given grounds for being thus looked upon by the community, cannot be denied; for let any any candid and truth-seeking man look around him among the mass of the agricultural population of our country, and he will find an amount of ignorance that is wholly inexcusable. I mean no offence to my brethren of the plow, who like myself, earn their bread by the sweat of their brows, for I know full well, by experience, how hard it is to earn one's bread, and make any progress in literary pursuits at the same time; but I know as well that many, very many hours are wasted which might be spent in storing the mind with useful knowledge. There is in truth a shocking indifference among farmers as a mass, to the acquirement of intellectual knowledge, and the quicker we are aware of, and acknowledge this fact, the more likely will we be to correct our error.

But if farmers are ignorant, it is not the fault of their vocation. There is no life that can be made more eminently a life of reflection than that of the agriculturist. Living, as he does, in the very "treasure-house of wonders," is there not enough to awaken thought and reflection in him? But alas! too true is it that things so common and familiar as the operations of nature, cease to excite our wonder and admiration. The green grass grows beneath our feet—the bright blossom bursts forth in beauty—the forest waves in rich luxuriance—sunshine and shade are upon our path, and yet we toil on, toil ever, in the pursuit of worldly gain, passing the beautiful unheeded by; and if, perchance, there is now and then, one man amid a group of farmers, who has a soul to look upon the beautiful in nature or in art, those wise men shake their heads, speak with a sepulchral tone, and prophesy the downfall of him, so recreant to his interest, who dares to let a flower grow upon a spot that might have grown a blade of grass or grain!

But let us hope that the dark night is passing away—let us hope that a bright day is dawning upon us and upon our children, and let us prepare for them, at least, if it be too late for us, a wider range of education—finer tastes and deeper sensibilities.

The good work has begun—there seems to be a general stir upon the subject of educating the farmer—the text is in every man's mouth; let it go onward—let ways and means be devised for educating the mass of farmers, and let it no longer be necessary for lawyers, doctors, ministers—any body else but farmers, to deliver addresses, or make speeches upon the subject of agriculture. Let farmers understand their own business, both theoretically and practically, and let them be able to tell what they do know, when it is required of them.

I do not say all this because I think it so enviable a lot to give an address or make a speech, but I say it in sorrow for that ignorance among those who are strictly called *practical farmers*, that caused the necessity for calling in the aid of others to do what they themselves felt their inability to do.

Truly hath it been said that the farmers have done everything for others, and nothing for themselves. Had it been done with a noble and benevolent spirit, we might be joyful for the goodness that led to it. Were it a noble sacrifice of selfishness for the benefit of our fellow man, we might glory in the disinterestedness that prompted it. But alas! can we plead this? Oh no; ignorance, ignorance—nothing but ignorance of the grossest kind has caused their elevation and our shame. It is only by a thorough system of education, both moral and intellectual, that we can attain the position which of right belongs to us. We call upon the farmers then of every state in this wide Union, to awake from their lethargy—we beg of them to plan and devise means for the improvement of themselves and their children. We call too upon all good citizens to aid us in this endeavor. The education of farmers is not a thing that alone concerns him; it concerns the welfare of the whole country. We are here now in the midst of peace and prosperity, but still we think that he who has looked far into the future, may discover upon the horizon some clouds, which though now "no bigger than a man's hand," are destined to gather and burst in fury over our own beloved homes. Perhaps no sagacity of any party can prevent the storm, but it is better to meet it well prepared than not to be prepared at all. And what must that preparation be? I answer—the universal education of all classes in the community. In a republic, if any where, we must have an intelligent people. Monarchies and aristocracies may support themselves through the wisdom and tact of their rulers, kings, and princes, without the education of the common people, but a republic must look to the virtue and intelligence of its community for support, or it will fall a prey to scheming men and heartless demagogues.

The farmers, from their numbers, hold the balance of power in their hands in this country, and must continue to do so for years and years to come; educate them, and our republic will stand, the model and the glory of the world; let them remain ignorant and uneducated, and who shall dare to solve the enigma of the future? H. C. W. *Putnam Valley, N Y., Oct.* 1849

Agricultural Education.

At the last meeting of the Seneca County Agricultural Society, JOHN DELAFIELD, Esq., on tendering his resignation as President—a post which he had occupied for three years—made some excellent and appropriate remarks in regard to agricultural education. He has kindly favored us with the following extracts, which we recommend to the attention of our readers. EDS.

The age in which we live is so remarkable for important events, producing changes in modes of life, and forcing upon us an activity and enterprise unknown in former periods, that the best educated man among us, feels the power of science pressing and urging him to a further accumulation of knowledge. It must be evident to every thinking and observing man that a better and more general education is urgently necessary, to keep pace and position with the improvements of our age.

Heretofore the importance of education and general knowledge was felt to be the basis of our liberty, its safeguard and sure instructor as to what is right and just between man and man. This truth is as strong now, and necessary to our liberty and happiness, as at any period of our history; but the zeal engendered by our systems has produced such an amount of results or products from the improved education of our people; science has advanced with strides so rapid and long, that many of our citizens look with wonder and astonishment, acknowledging the superadded necessity for better instruction for the masses—that we may comprehend from day to day, and be actively benefitted by the use of every improvement which science brings to light.

That our state has done nobly, all will admit; our common schools, and now, our free schools, have opened and will continue to open, the elementary doors—exerting an influence for good on all time to come. A few years back, and we beheld a vessel pressing against wind and tide up our mighty rivers, by a power unseen; soon after we saw large crafts, freighted with the rich products of the farmer, floating up and down the rough mountains, and across extensive plains, where neither river or rivulet had run before.

Next, we find towns, villages, cities, far distant from each other, connected by iron bars, on which enormous burdens and masses are impetuously driven by the use of a few gallons of water. And more recently, we communicate our wishes to friends or agents at the distance of a thousand miles, or more, in less time than I take to recite the fact. These are some of the important changes of our day and hour; but there are others specially applicable to every branch of trade or art, equally amazing in action and result.

Without adverting to the wonderful advantages derived to the mechanic, manufacturer and merchant, let us inquire what progress has been made by science for the advantage of the farmer.

It may be first stated, that since the occupation of this continent by Europeans, and until within the last twenty years, the system of cultivation was a system of deterioration, a system of destruction. The earth yielded bountifully—man took all, but gave nothing in return. What was the consequence? A steady diminution of products until this noble state of New-York was reduced from an average production of 30 bushels of wheat per acre, to the unprofitable product of only 12 or 13 per acre. When the great impulse was given to *Education* in the new as well as in the old world, science was invoked on behalf of the farmer. The nature, character and elements of manures and fertilizing matters were examined and ascertained. The discovery that potash, soda, magnesia, lime, &c., were in fact the oxides of metals, led the way to improvement. The next important discovery was the elements of plants, showing beyond dispute their similarity with the soils on which they grow; and subsequently the due proportions in which they (these elements) exist in plants for their perfect development was clearly proved. About this time it was established that our plants drew subsistence also from the atmosphere, and science has pointed out to us *those* necessary elements. Further investigation has brought to light the necessity and action of vegetable decaying substances in our soils, and the agencies thus carried on for our benefit.

The action of the atmosphere upon the soil, when mechanically broken up and turned over, has been well explained. In short, science has been as profuse in her riches to the farmer, as to any class of men; but *our class* has been deprived of these riches intended for it, by an absence of those means for their distribution, so largely possessed by every other class of mankind: I mean, colleges, academies and schools devoted to their special advancement. True, the elements and rudiments of a general education *may be* within the reach of every young person, but the application of knowledge, of art, of science, to agriculture is not to be had in any institution in this state; nor can it now be grafted on any existing institution, because original intent, long continued habit, and settled opinions, have confirmed them in leading the youth committed to their care, into pursuits entirely disconnected with what I believe to be the best, purest, and happiest vocation of life.

The other vocations of life have, indeed, their enjoyments, and are essential to the perfection of the agriculturist, as *agents*, to receive and distribute his products, to consume them, to bring to him, in return, the comforts and luxuries of other climes, to contrive and arrange the fleece and the cotton ball in varied forms and textures for his comfort or pleasure, to encourage the fancies and quick imaginings of some for the decoration and adornment of our dwellings or persons, or for the amusement and strengthening of our intellects. Now, all these classes have *their* proper and special schools, academies and colleges, rightfully and properly established, and from them, as I before stated, has emanated the talent which claims our wonder and admiration from day to day, while we, the farmers, the producers, the very foundation and means on which all other classes are constructed and supported, are without a single school, academy or college, devoted to instruct us, or cause the proper applications of science to *our* important calling. For a few years past, we have feebly raised our voices, and as feebly pressed our claims on the legislature for an equal participation in the means we so largely contribute, by an appropriation for a college devoted to our agricultural promotion, and that the teachings of science might be exhibited to the eye and understanding upon an experimental farm attached to a college. Our voices have been as feebly heard; for nothing has been done for us beyond complimentary reports. Compliments, though agreeable, are cheaply procured, and endure in proportion only to their value. We need the substantial and momentous element of an agricultural college for the farmer's son—a *college*, so endowed and conducted, that a certificate from its officers shall be a passport to the farmer in every place and every clime, alike honored and respected with the diploma of any other college or institution.

And now, farmers, a few words as to the prompt use of the institution, which I feel must be accorded to your wishes. It is probable that many a parent will in humble modesty, shrink from thrusting his son into competition, or fear the results of a position so prominent among his fellow beings. Let us, for a moment, look back upon time, and the results of science as placed within the grasp of men like many or all of us. We find

1. Opie, the celebrated painter, and who lectured upon his art in London. He was a lumberman and carpenter.

2. John Prideaux—who became Bishop of Worcester, entered as assistant in the kitchen of the college (Exeter) in Oxford, and there obtained a fellowship.

3. Linnæus—The famed founder of the science of botany, closely allied to our profession, was a shoemaker's apprentice.

4. Ben. Johnson—the celebrated dramatist, worked as a brick-layer.

5. Jas. Milner—the author of the history of the church, was a weaver.

6. Cook—the great navigator, was, in early life, the apprentice to a shopkeeper.

But let us come to our own day and times, and we find:

1. Benj. Franklin—his early days were devoted to soap boiling and candle making. I need not remind you of the conspicuous and important influence he had in securing to us our present liberty and happiness.

2. Humphrey Davy—to whom we farmers are indebted for science applied to our profession; he was the son of a carver in wood, and was himself an apothecary's apprentice.

3. General Greene of N. E. He was a blacksmith—member of state legislature—the friend of Washington—the true soldier.

4. Roger Sherman—one of the noble souls whose names were affixed to the Declaration of Independence. His father was a farmer, but himself a shoemaker—the man of whom Jefferson remarked, "he never said a foolish thing in his life."

I could go on and particularise hosts of talented men who have risen in this country from obscurity to the highest estimation of their fellow beings. At this hour we have, living in this state, men who struggled with poverty from their youth, holding the highest offices of our state and general government—bright lights of this nation—poor through life as to property, but rich and wealthy to excess in *all* that makes the man, that gives character, and elevates the human species.

Behold, then, farmers, the beacons for us to follow. Every one of the men I have named were urged forward *to schools*, or seized eagerly *every means for education*—zeal and determination accomplished the rest, at a time when our best appliances for education were young and weak, and before the great store-house of science was opened as it now is for the use of man. Then the competition was among comparatively few—now each man is but one of many millions running the same race. So large is our community that we are necessarily divided into classes, and each year every class takes its more distinctive form. In accordance with this natural division, we find every class, except the great farming body, establishing schools, academies and colleges, for their own advancement. We see their educated men filling or claiming to fill every post of honor or distinction.

Gentlemen, I call upon you to remember that, as a class, you far outweigh in natural advantages, every other class; in numbers, we constitute more than three-fourths of the whole nation, yet, strange to say, not a school, not an academy, not a single college has been devoted to the advancement of our high calling—a calling which in truth demands as high or a higher education for its perfection, than any other position in life. This is strong language for us, but it is true; it is capable of full demonstration; and the claims we are now making for our share of public attention and our rights, will be upheld by a burst of stronger tones than mine. Let us then press forward with one accord—let us as farmers feel as one family, and claim from our State government the prompt establishment of an agricultural college, with suitable farms, to shed the light of science upon agriculture, as it has done, by similar means, upon law, medicine, commerce and manufactures.

Doings of the Smithsonian Institution.

EDITORS OF THE CULTIVATOR—I have just finished an examination of the first and second Reports of the first secretary and other officers of the Smithsonian Institution. I hardly remember to have taken anything in hand, for a long time, more full of interest, or, in my opinion, calculated to develope more important results for science, than the plan of organization of this institution, and the designs of the Board of Regents, in carrying out and perfecting the same.

It is well known that Mr. SMITHSON left his property in trust to the United States government, to found at Washington, an institution which should bear his own name, and have for its object "the increase and diffusion of knowledge among men." This trust was accepted by our government, and an act of Congress was passed, constituting certain individuals an establishment, under the name of the "Smithsonian Institution for the increase and diffusion of knowledge among men." The act establishing the institution, directs, as a part of the plan of organization, the forming of a library, a museum and a gallery of art, together with provisions for physical research, and popular lectures; leaving to the Regents of tne institution the power of adopting such other plans as may to them seem best suited to promote the objects of the bequest.

The secretary, in his latest Report, informs us that the Regents have resolved to divide the annual income into two equal parts; one part to be devoted to the increase and diffusion of knowledge, by means of original and particular research, publications and lectures; and the other half to be applied, in accordance with the act of Congress, to the gradual formation of a library, a museum and a gallery of art.

The secretary also informs us, that several distinct scientific researches are now in progress, under the direction of the institution, memoirs of which will be duly published; that the library is gradually increasing by donations and by books deposited by publishers, and that, hereafter, considerable additions will be made in the way of exchanging the Smithsonian Contributions for the published Transactions of other institutions; that preparations are making for giving a series of free public lectures, to be commenced as soon as the building is ready for the purpose.

We find by the report of the building committee, that the east wing of the building is ready for occupation, and that the whole structure will be completed within the specified time, namely, by March, 1852; that the plan of building adopted, comprises a museum 200 feet by 50, a library 90 feet by 50, a gallery of art 125 feet long, two lecture rooms, of which one is capable of containing an audience of 800 to 1000 persons—that the style of building selected is the later

Norman or rather Lombard, as it prevailed in the twelfth century, cheifly in Germany, Normandy and in southern Europe, immediately preceding the introduction of the Gothic; and that all expenditures connected with the building, including the laying out of the grounds, planting, fencing, &c. &c., may be comprised within the limit set, namely $250,000.

We find by the report of the executive committee, that the whole amount of Mr. Smithson's property, received into the treasury of the United States, was $515.169,00; that the interest which had accrued on the same, up to July, 1846, when the funds were placed under the direction of the Board of Regents, was $242.129,00; that, owing to the excellent system of finance adopted by the Board of Regents, the interests accruing on this fund, will so far exceed the expenditures, of every kind, as to enable them to complete the building, and put the institution into full operation by March, 1852—that there will then be a residue of interest of $142,000.00, to be added to the original bequest, ($515,169.00) making the permanent fund for the institution, of 657,000.00—which will yield an annual income of $39,420.00 for the increase and diffusion of knowledge.

It is but just to remark, Messrs. Editors, that the report of Mr. Jewett, the assistant secretary, relative to the library, is a very interesting, perspicuous and able document, and is highly creditable to him. I would gladly notice his report more fully, and give some fine extracts from it, did my limits permit.

The Regents very justly deduce the following propositions from the will of Mr. Smithson, as prominent rules to guide their practice in dispensing the funds of this institution:

1. The bequest is intended for the benefit of men in general, and its influence ought not to be restricted to a single district, or even nation.

2. The objects of the institution are: first to *increase*, and second, to *diffuse* knowledge among men.

3. The will makes no restriction in favor of any particular kind of knowledge.

"To restrict, therefore the operations of the institution to a single science or art, would do injustice to the character of the donor, as well as to the cause of general knowledge. If preference is to be given to any branches of research, it should be to the higher, and apparently more abstract. This is true even in a practical point of view. Agriculture would have for ever remained an empyrical art, had it not been for the light shed upon it by the atomic theory of chemistry; and incomparably more is to be expected as to its future advancement from the perfection of the microscope, than from improvements in the ordinary instruments of husbandry."

To increase knowledge, it is proposed:—

1. To stimulate men of talents to make original researches, by offering suitable rewards for memoirs containing new truths.

2. To appropriate annually a portion of the income for particular researches, under the direction of competent and suitable persons.

Among the great variety of subjects proposed for investigation, I noticed that the following are already engaging the attention of the Board of Regents:

The ancient monuments of the Mississippi valley; five separate memoirs on astronomical subjects, affording important additions to the science; a systematic and extensive series of meteorological observations, particularly with reference to the phenomena of American storms; a series of observations on the temperature and velocity of the Gulf Stream; the botany of Oregon, with drawings and engravings; and a collection of facts relative to the variations of the compass, to be presented in a series of maps.

To diffuse knowledge, it is proposed:—

1. To publish a series of periodical reports on the progress of the different branches of knowledge.

2. To publish occasionally separate treatises on subjects of general interest.

Among the subjects soon to be reported, I notice that arrangements are being made to publish the following:

Reports on the present state of chemistry as applied to agriculture; on the forest trees of North America, giving their uses, mode of propagation, and their history; on the present state of our knowledge of lightning, and the best means of guarding against accidents from its effects, &c. &c.

I have become very much interested in the plans and designs of this institution, for establishing a system of extended meteorological observations for solving the proplem of American storms. There is scarcely any object of scientific research of more general interest, or likely to be productive of more beneficial effects than that which relates to the phenomena of our storms. Within a few years past, in our country, several important principles have been established, and some well defined theories have been recently proposed, by which attention may now be directed to many different points of observation that cannot fail of being attended with important results. The observations of Mr. Redfield, in particular, have been wonderfully exact, extensive and scientific; his theories are very attractive to the scientific inquirer, and numerous facts and observations by others, seem to come in to his support. The Smithsonian institution proposes to organize a system of observations which shall extend as far as possible over the North American continent. In order to do this, they have invited the co-operation of the British government; and have obtained their assurance that as soon as the plan is fully matured for this country, no difficulty shall be in the way of establishing a system of corresponding observations in the British provinces.

Prof. Loomis, of New York University, has submitted to the institution a very interesting report. It contains an exposition of the advantages to be derived from the study of meteorology, and what has been already done in this branch of science in this country, the encouragements for a further prosecution of the subject, together with a plan of operations.

In order to present a general view of the subject, in a condensed form, I have gathered up from his somewhat extended report, a few of the more prominent points, using nearly his own language. They are as follows:

I. The advantages to society of the study of meteorology.

Very little argument is needed to prove that our comfort and convenience, not unfrequently our lives and property, are dependent upon meteorological phenomena. This is proverbially true of the mariner. His life often depends upon the fidelity with which he watches every change in the aspect of the sky. The number of disasters upon the sea is frightful, and is far greater than is generally known. In the gale of December 15, 1839, eighty-nine vessels were wrecked on the Massachusetts coast; and of these, sixty-one on a single cape. In the great hurricane of 1780, thirteen battle-ships were lost, and sixteen more dismasted. England and America alone suffer an annual loss from wrecks of more than 1000 vessels, and nearly one-half of this is on the American coast. The farmer, too, is directly dependent upon the weather for the consummation of his plans, almost equally with the sailor. Severe drouth or excessive rains, untimely frosts or a scorching sun, may blast all the hopes of the husbandman. If we can anticipate the general character of a season, the farmer may regulate his time of planting or the nature of his crops, so as to be least injuriously affected by unpropitious weather; so that, if we cannot strip the lightning of its power, we may at least direct it harmlessly to the earth.

II. The progress already made, towards deducing from these observations general laws.

In the list of philosophers who have contributed to create science out of the crude materials furnished by observation, Mr. Redfield is first mentioned. He gives an account, in a paper to the American Journal of Science, of the hurricane of September, 1821, of the storm of August, 1830, and of two or three other storms of the same year. From a comparison of all the observations, Mr. Redfield derived the conclusion that those storms were great whirlwinds. In 1833 he published a list of general propositions as embodying the results of his investigations, among which were the following:

1. The severe storms of the Atlantic coast often originate in the tropical latitudes, where they are distinguished by the name of *hurricanes*.

2. These storms cover, at the same moment of time, a surface, whose diameter varies from one to five hundred miles, and in some cases they have been much more extensive. They act with diminished violence towards the exterior, and with increased energy towards the interior.

3. The duration of the storm at any place within its track depends upon its extent, and the rate of velocity with which it moves.

4. The direction of the wind over the greater portion of the track is not the direction of the progress of the storm.

5. In the lower latitudes, while drifting to the westward, the direction of the wind at the commencement of these storms is from the northern quarter, and during the latter part of the gale, it blows from the southern quarter of the horizon.

6. North of the parallel of 30°, and while pursuing their course to the northward, these storms commence with the wind from an eastern or southern quarter, and terminate with the wind from a western quarter.

7. Mr. Redfield infers that the portion of the atmosphere which composes the body of the storm, blows in a horizontal circuit around a vertical axis of rotation, which is carried onward with the storm, and that the direction of the circuit is from right to left.

8. The barometer always sinks while under the first portion of the storm, and rises again under the last portion of the gale.

In the Journal of the Franklin Institute for 1836, Prof. Espy published a series of essays upon storms, in which he arrives at the following generalizations:

1. The rain and snow storms, and even the moderate rains and snows, travel from the west towards the east, in the United States, during the months of January, February, and March, which are the only months yet investigated.

2. The velocity of this line is such, that it travels from the Mississippi to the Connecticut river in about twenty-four hours; and from the Connecticut to St. John, Newfoundland, in nearly the same time, about thirty-six miles an hour.

3. When the barometer falls suddenly in the western part of New England, it rises at the same time in the valley of the Mississippi, and also at St. John, Newfoundland.

4. In great storms, the wind for several hundred miles on both sides of the line of minimum pressure, blows towards that line directly or obliquely.

5. Many storms are of great and unknown length from north to south, reaching beyond the northern lakes on the one hand, and beyond our observers in the Gulf of Mexico on the other, while their east and west diameter is comparatively small. The storms, therefore, move side-foremost.

6. Most storms commence in the "far west," beyond the stations of our most western observers.

7. In the northern parts of the United States, the wind, in great storms, generally sets in from the north of east, and terminates from the north of west.

8. In the southern parts of the United States, the wind generally sets in from the south of east, and terminates from the south of west.

III. The encouragement there is to a further prosecution of meteorological researches.

In all our investigations respecting natural phenomena, we assume that the operations of nature are subject to laws, and these laws are uniform in their operation. A law of nature knows *no exceptions*. There is no place for science except upon this basis. All the laws of nature appear complex while they remain unknown; but when once discovered, we are surprised at their simplicity. Why should storms form an exception to this rule? Have our meteorological researches been rewarded with no success? Far otherwise. We have discovered that the great storms of the United States travel nearly from west to east. Violent storms usually travel at the rate of about 25 miles per hour; in some cases the velocity has been known to rise to 40 miles. These storms are of various dimensions. While summer showers may cover an area of but a few miles, winter storms sometimes have a diameter of 1000 miles or more. If the diameter of a storm is 500 miles, and its progress 25 miles per hour, its duration at a place situated at the centre of the track will be 20 hours, and less for places out of the centre. Hence we may form some estimate of the extent of a storm from its duration at any place. We are justified, then, in inferring that storms are subject to laws; that these laws are uniform in their operation, and that they may be discovered. When the magnetic telegraph is extended from New York to New Orleans and St. Louis, it may be subservient to the protection of our commerce, even in the present state of our knowledge of storms. The severe winter storms which desolate the Atlantic coast come from the valley of the Mississippi, and require about 24 hours to travel from St. Louis to New-York. The approach of a dangerous storm might therefore be telegraphed at New-York hours before its arrival, while the sky was yet unclouded and the wind propitious, in season to save a fleet of ships from putting to sea, to be engulphed in the bottomless deep.

IV. Plan of conducting observations to secure the object proposed.

An effort will be made to secure the co-operation of the general government, the several state governments, scientific societies, and the friends of science throughout the country. The entire country will be divided into sections not exceeding 100 miles square; and in each section, not already provided for, an observer will be sought out, who shall volunteer to make the observations if instruments are furnished him. The Smithsonian Institute will assume the burden of furnishing the necessary instruments to those who are unable to do it themselves. A form of observations will be provided, and instructions given to all the observers, who shall report at least quarterly to the secretary at Washington. It will be the duty of the Meteorologist to take charge of the observations, to discuss and analize them, and endeavor to deduce from them the laws of storms. These investigations will be published, in as much detail as may be thought demanded by the claims of science, and a copy of whatever may be published will be forwarded to each observer, in order that he may be encouraged in his work, by finding that his labor is not wholly in vain.

After all my efforts at condensation, Messrs. Editors, I find that my attempt to present a view of the doings of the Smithsonian institution, has resulted in a long article. I feel quite diffident in occupying so much space in your columns with this thing, but conclude to venture hoping it may be found interesting to a portion, at least, of your readers.

This institution proposes, among other things, to investigate several subjects intimately connected with the business of agriculture; and it is, therefore, well that our agriculturists should be informed of the principles of its organization and plans of operation. The proposal to "post up" the developments of chemistry, as applied to agriculture, may be instanced as a very important one, and calculated to be of service to our farmers. Here lies a great field for further scientific research also; and if conducted with proper skill and judgment, great benefits must arise to our agriculture. We farmers will "keep an eye out" upon the operations of this Institution, therefore, and will be ready to lend it a hand in investigations connected with our profession, as well as to receive and acknowledge any benefits resulting from its scientific researches. F. HOLBROOK. *Brattleboro', Vt., Dec.* 5, 1849.

HE who plows his land and breeds cattle, spins gold.

THE footsteps of the owner are the best manure for his land.

Notes on Massachusetts Farming.

We had lately the pleasure of calling on a few farmers in Massachusetts; and from the many interesting matters, to which, in a hurried view, our attention was called, we offer the following brief notes:

The farm of General Wm. Sutton, of Salem, consists of 300 acres. About 200 acres are woodland and rocky pasture, which has never been plowed. The remainder, though naturally rough, has been made very rich and productive. It has been fenced with stone walls, which will probably stand as long as fences are needed. Most of the boulders, with which the soil was formerly considerably filled, have been taken out, and the plow now passes without obstruction, over large and handsome fields.

The principal surplus product of the farm is hay; but grain and vegetables, to the extent of the home consumption, are produced. The annual production of hay is 100 tons; of this, 60 tons are sold, at an average price of $13 per ton. The remaining 40 tons are required for the support of the stock kept on the farm, of which there are six oxen, six cows and four horses —besides twelve to fifteen cows taken in to pasture at $10 each, for the season.

The team-work of the farm is done chiefly by oxen, and the three pairs kept here are noble animals, able to accomplish anything practicable in their line. They are from five to seven years old, and the weights of the different pairs, are 3,300 lbs., 3,600 lbs., and 3,800 lbs., in good working order.

Gen. S. takes particular pains to save all the manure of his animals. It is mostly deposited in a cellar, over the bottom of which, as well as over the whole barn-yard, muck is spread to absorb the liquids. He has some advantages of making manure not usually possessed by farmers. He uses the waste of a large glue factory. The animal substance in the process of being converted into glue, while in a half-fluid state, is strained through straw; the refuse that remains, is, with the straw made into compost with peat, at the rate of three loads of the latter to one of the former. The mass remains one year before being used, during which time it becomes thoroughly decomposed; the straw is rotted, the peat, by fermentation, becomes fine, and is thoroughly impregnated with the gases and salts of the animal matter. This compost is found to be more powerful and lasting in its effects, than common barn manure, load for load.

All Gen. S.'s buildings are of the most substantial kind. His barns, and the yards attached to them, have every possible convenience of arrangement, with water always at hand. His implements are the most perfect in their kind, and so complete is the assortment, that every description of work may be performed with its most appropriate tool. Every thing is kept in a place designed for it, and could be readily found by a person acquainted with the plan, in the darkest night. Taking the whole establishment together, it presents a model of neatness, system, convenience, and thorough management, which is seldom equalled.

The farm of E. Hersey Derby, Esq., is in South Salem. Those who have been familiar with the various agricultural enterprises of Massachusetts for the last forty years, will at once recognize Mr. D.'s name in their connexion—especially as a prominent officer of the Massachusetts Society for Promoting Agriculture, an association to which the country at large is deeply indebted for much of its advancement in husbandry. We found him still active, personally superintending his extensive farming operations, and earnestly awake to every practical improvement.

Mr. D. has a large garden, which is enclosed with a buckthorn hedge. He has used the buckthorn extensively for hedges, and his fences of this kind are among the most perfect we have seen. He is confident, after having made trials with several other thorns, that this is the only one suited to this climate. He states that all the buckthorns in this country, so far as he is acquainted, came from one imported tree, which stood in the garden of the late Dr. Holyoke, of Salem. We are aware that some regard the buckthorn as indigenous to this country; but Emerson, in his "Trees and Shrubs of Massachusetts," says "it was probably introduced from Europe, where it is a native."

Mr. D. has introduced the English oak, and has a nursery of young trees of this kind, and several beautiful standard trees, from forty to sixty feet high, planted with his own hand. Indeed his grounds abound with fine trees of various kinds, all of which, with the exception of *one*, he informed us, were put out by himself.

Mr. D. keeps thirty cows, converting the surplus produce of his farm chiefly into milk, which is sold at six cents per quart, (beer measure) in winter, and five cents in summer. The average amount realized from each cow, is $100 a year. He raises vegetables—chiefly carrots and beets—on a large scale, for feeding the cows in winter, allowing each cow half a bushel per day, while kept on dry fodder. He prefers the carrot. The hay for all the stock of the farm, is cut in a machine. The cows are fed partly on upland, or fresh hay, and straw, and partly on salt-marsh hay, and they do much better with this variety, than when confined to upland hay.

Mr. D.'s barns are spacious, and well planned. The one where the stock is principally kept, has a cellar under the whole of it; a part of which is appropriated to manure, a part to storing vegetables, and a more dry and open part to the storage of farm implements.

The farm of Geo. E. Adams, Medford, consists of 160 acres. It is devoted chiefly to the production of milk and apples. The stock consists of 55 cows, a yoke of oxen and five horses. The annual sales of milk have amounted to $5,500, and in one year to $6,000 (the prices as mentioned above.) The apple orchard consists of fifteen acres. The trees have been well managed—are large, and generally bear abundantly. The varieties are chiefly Russets and Baldwins. He has picked 1000 barrels of winter apples in a season, and one season sold that number at $2 per bbl. The Baldwins are usually sold to Messrs. Tudor, of Boston, and are wrapped in papers and sent to Calcutta. A large orchard of peach and pear trees has lately been set out, which has not yet come into bearing.

Mr. A. is a young man who farms for *profit*, and the energy and economy with which his extensive business is carried on, bring a sure and satisfactory reward. Much judgment has been shown in his buildings, several of which have been erected under his own direction, and are of ample dimensions, convenient, and well finished. As with all good farmers in this section, *manure* is of the first importance. He saves everything of this nature, and has enough to keep up his farm to an extraordinary state of richness. His main barn is 160 feet long and 40 feet wide, with a cellar under the whole. Marsh mud and "sea-wrack," (vegetable matter washed up by the tide,) are used as absorbents. Without these the manure, as the urine is saved, would be in too fluid a state to be readily portable. Water is brought to the buildings by means of a small windmill, which works a pump, and keeps a large reservoir constantly filled.

On the farm of Mr. Harvey Dodge, Sutton, we witnessed some valuable improvements. The farm lies on a large swell of land, which is naturally very rocky, and quite wet. It was originally divided into very small lots, many of them containing only two acres each, and fenced with stone walls. One object of these small divisions was probably to get rid of the stones, which had to be removed from the soil before it could be worked. Some idea of the quantity of stones may be formed from the fact that these walls were made from four to six feet wide and four feet high. The foundations of many of them not being properly laid, and the materials not of the best kind for permanent walls, they had in several instances settled down and flattened out, till they occupied much more room than at first.

When Mr. D. took possession of the farm, a few years ago, he soon discovered that it had two radical defects, which he determined to remedy. The first was the loss of land by the numerous old walls, and the inconvenience of working the small lots; and the second, the want of drainage to the soil. In obviating the first difficulty, he adopted a plan by which he, in a great degree, obviated the second. He *sunk* the old walls, and the trenches where they are buried have become *drains!* He has in this way turned a large part of his farm into beautiful fields, of from 12 to 18 acres each. Where the walls on the lines of the present division were good, they were left; where they were not good, they were rebuilt in the most substantial manner. The walls were sunk so low that the plow passes over without disturbing them. The mode of sinking the walls was by digging deep ditches close along side of them, and then throwing the stones in. The ditches were filled to a level with the surrounding ground, with the earth taken out, and the remainder is used in filling hollows about the fields. The effect of the drainage is already apparent in the sweeter nature and more abundant growth of grass; in the better and surer crops of grain which the land produces, and in the more healthy and thrifty growth and increased productiveness of fruit trees. In some instances the sunken walls do not sufficiently drain the soil, and in such cases other drains are being made.

Mr. D. is also reclaiming by under drainage, digging out stones, and leveling, a wet pasture, lying near his barn, which had never been plowed till last fall. His operations before spoken of prove that it will *pay*.

The water from the drains is collected into several main channels. One of these is carried to the buildings, and furnishes water for the stock, &c., and another is emptied on a sloping meadow, and fertilizes several acres by irrigation.

Attached to Mr. D.'s piggery, is a building where tripe and neats-foot oil are prepared for market. The shanks, feet, and heads of cattle are brought here in large quantities. The bits of skin are saved for glue, and the bones are boiled till the oil is thoroughly extracted. The liquor in which the articles have been boiled, is used for cooking vegetables for swine, of which Mr. D. keeps about sixty head. The "stores" are fed with carrots and turneps boiled in the liquor; for fattening, corn or corn-meal is added.

The manure made from the hogs and the animal offal, is of much importance. The bones would be still more valuable, if some economical mode of crushing them could be devised. The want of such a mode, has prevented many of the larger bones being used to much advantage. The hoofs and the small bones of the foot, have been plowed into the ground, and their effect has been very beneficial. Apple trees have been made to grow rapidly from this application, and a piece of carrots, sown among the trees, the past season, produced 900 bushels to the acre. The larger bones, shanks and jaws, have in some instances been *driven* into grass-grounds. Mr. D. showed us a meadow, a portion of which had been "boned" in this way, that had produced as much hay the past season, as could be made on the ground.

Mr. D. is turning his attention to the improvement of cattle, and has some pretty Devons—a bull and heifer—of the stock imported by the Mass. Society.

Mr. Nathaniel Dodge, of Sutton, has a fine farm, especially attractive from the good order of his buildings, the perfection and *uprightness* of his fences and the smoothness and neatness of his fields. He has been for several years noted for having fine working oxen. In our volume for last year, page 68, we noticed a pair of his cattle which had been fattened. He informs us that these were sold in Boston for $400. He has now a pair of brindled oxen "as like as two peas," quick, strong and handsome—which he is willing to put to the plow against any pair of horses.

We called for a short time at the farm of Col. J. W. Lincoln, Worcester. Col. L. was absent, but his foreman showed us the out-buildings, the stock, and a portion of the farm. The buildings are commodious and very complete, presenting a fine appearance. A large piggery has lately been built; all the under portion, or that with which the hogs come in direct contact, is made of stone, and of so permanent a character, that for aught we can see, it may last for ever. The premises exhibit unmistakeable evidences of good management. The fields are well laid out, and fenced with stone walls of the most substantial kind.

Col. L. has paid considerable attention to cattle. He has several yoke of fine oxen and steers, and some of the best cows and heifers we have seen. He has tried the Ayrshires for several years, and is well pleased with them as dairy cows. He has several full bloods which are good specimens of the breed. His bull and some heifers were lately purchased of the State Society.

Col. L. cultivates about an acre of carrots, yearly, for feeding his cows in winter, and the average yield is 600 bushels. The cows are warmly stabled, and when fed with good hay, (Col. L's. appears to be of the best kind,) and half a bushel of carrots to each cow per day, they will make nearly as much butter, when fresh in milk, as on grass feed.

The farms of Ex-Governor Lincoln, and his sons, Messrs. W. S. and D. W. Lincoln, are near the city of Worcester. The original farm of Gov. L. consisted of about 300 acres; but it has been encroached on by the growth of the city, and a considerable portion has been sold for house lots. The land is very productive, particularly for grass. Gov. L. showed us a lot of seven acres, which kept six cows constantly, the past season, and yet the grass was not entirely kept down, notwithstanding the extreme drouth. It has never been plowed but once, but has once been top-dressed with a peat compost and harrowed.

Gov. L.'s sons are ardently devoted to agriculture and horticulture. Mr. W. S. L. has a snug place, with new buildings, and has already made a demonstration in farming which augurs well for his ultimate success. Mr. D. W. L. is more especially engaged in horticulture. He has a nursery of fruit trees. He finds, however, that the cultivation of choice fruits of some kinds, is more profitable than raising trees for sale. He is, therefore, giving much of his attention to the culture of pears,—mostly on quince stocks,—and grapes. He has a fine *cold* vinery, filled mostly with the Black Hamburgh variety, and has also vines in his green houses. The vines appeared in excellent condition, and we were informed had borne well.

Mr. L. obtains his manure chiefly from a slaughter house, on his land. The manure is made into compost with muck and litter, and used after it has decomposed. To prevent annoyance and *loss* from the escape of odors from the manure, he uses charcoal-dust, which is occasionally spread over the manure, under the slaughter house, and the hogs which are kept there, work the dust into the manure. He uses the waste charcoal from the rail-road locomotives. The application of a slight coating of this material, effectually stops any unpleasant smell from the manure.

Common Schools.

The Common School is justly regarded as the palladium of our civil liberties. It is, and must be, from this source that the mass of our citizens derive the groundwork of the knowledge which will enable them to sustain the principles of a free representative government. It is, then, of the highest consequence, that these schools be made to confer the greatest possible advantages on those for whom they are designed. In regard to their character and utility, much depends on the countenance and encouragement given them by parents. The improvement of children will be comparatively unimportant, if parents are indifferently disposed towards teachers and schools. This subject is brought forward in a striking light in the following circular, addressed to parents, written by an observing and intelligent superintendent of schools, in a neighboring state. EDS.

I know you feel an interest in the education of your children, and therefore I wish to call your attention to the winter schools, which are about to commence. What shall be the value of the school in your district to your children? Are you aware that the success of your school will depend much upon your co-operation with the teacher? I find throughout the county, that where the parents take the most interest in schools, there they have the *best schools*, and where they take the least interest, the poorest schools. It is the uniform testimony of teachers, that the active co-operation of parents is essential to success in their schools. Shall *your* teacher have this co-operation the coming winter? You may receive the public money, pay your taxes, employ a good teacher; but unless you take an interest, *yourselves*, you cannot have a good school. The school will be what you make it. Do you ask what you can do to secure a good school?—There are many things you can do. I will mention some of them:

1. You can furnish your chidren with *suitable books*.

2. You can see that your children attend school, *punctually* in the *morning*, and regularly *every day*. The tardiness and irregularity of scholars is one of the greatest evils in our district schools. Parents can correct this evil, *if they will*. In Putney, the average attendance last year was much greater than the year before—the average attendance in one school of 50 scholars being 60 days out of 66 day's school. In most schools in the county, the average attendance is not over 40 or 45 days—more than one-fourth of the schooling being absolutely lost, *needlessly lost*, while the value of the remaining three-fourths is greatly diminished. If your children are tardy, or occasionally absent from school, they will not be interested in the schools, or make progress in their studies. A few days' absence frequently destroys the value of more than half a winter's school. If your breakfast is half an hour too late, it may be the means of preventing your children from being interested in their studies for that day, and so through the winter. Will you not, then, as parents, *see to it that your children attend the school, punctually* in the morning, & *regularly* every day?

3. *You can visit the school.* The practice of visiting schools is becoming more common in some towns, and the good effects of such visits are seen in both teachers and pupils. Still, there are many districts where neither the parents or the committees ever go into the schools, and the best teachers accomplish but little in such districts, on account of the indifference of parents. It is impossible for a teacher to keep a first-rate school, where parents do not feel interest enough to look in and see whether their children learn or not. You may as well expect to raise corn in winter, as to find a good school in such a district. The neglect and indifference of parents will be as fatal to the interests of the school, as the snow and ice to the growth of corn. If you have a field of grain, are you not accustomed to visit it, now and then, to see how it grows, and that, too, when your visits do the grain no such good as they should do your children? for the grass and the grain have no eyes to see you, no smiling faces and cheerful hearts with which to greet you, as the children in the school-room have. If the sun shines and the showers fall, the grass and the grain will grow on. But what the sunshine and showers do for the fields, the interest of parents will do for the school. A visit from you who are parents, will often be as serviceable to the school, as a shower of rain on the grass, or the warm sun, with a dressing of plaster, on the corn. Will not every parent in the country visit the district school at least *once* during the coming winter? If the teacher is a good one, he will be glad to see you. If he is unfaithful, negligent, or incompetent, there is still more need of your visiting the school, even though the teacher should not wish to see you.

4.—*You can sustain the teacher in the government of the school.* There is great complaint in our country, that the schools fail for want of *order*. This want of order is sometimes the fault of teachers, and sometimes of the parents. If parents do not govern their children at home, if they allow them to stay at home for every petty dislike they may have against the teacher, or if they are accustomed to take their children out of school, when a favorite son or daughter is punished, no teacher can govern the school. One of our town superintendents stated in a public address, last winter, that most of the failure of their schools in government, had arisen on account of the unwarrantable interference of the parents in the government of the school. If parents listen to the foolish complaints of their children, the children will generally have complaints enough to make. If your teacher has faults, it is better for you to go and speak of them kindly to him, than to find fault with him or backbite and slander him behind his back. For much of the trouble with teachers arises from some misrepresentation or misunderstanding, which a little explanation from the teacher would have removed. Where there is a decided public opinion in favor of order, there will seldom be much disorder or rebellion in school. It is because the unruly and disobedient expect "*aid and comfort*" among some in the district, that they venture upon open disobedience and rebellion in school. If your teacher is incompetent, or unfaithful, let him be fairly *dismissed*; but do not let a *faithful* teacher be put down or driven away by the ill will of an offended parent, or the clamor of unruly boys and girls, to the disgrace of the teacher, and the still greater disgrace of the children and the parents. Your duty as parents, and as good citizens is not discharged by simply *not encouraging disorder*; it is your duty to *sustain order*, and frown on rebellion by your words and your influence. Men may *encourage mobs* in school, as well as in government, by *looking on* and *keeping still*, when they ought to *speak out*, and *frown down* rebellion. It is because the orderly keep still, that the few disorderly in our school districts make so much trouble.

5. You can do much, also, to benefit your children, by endeavouring to interest them in obtaining an education; by encouraging them to study and improve their minds during evenings; by discouraging those amusements which take off their attention from the school, and dissipate their minds; by showing that knowledge and virtue are better riches for them than any treasure of silver and gold. JAMES TUFTS, *Supt. of Common Schools. Wardsboro', Vt.*

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Horticultural Implements and Fixtures.

The economical horticulturist, who has ingenuity enough to do with his own hands, what is usually assigned to the carpenter, may be advantageously employed during winter, in adding to his implements and structures. A few suggestions under this head we hope may be acceptable at this season.

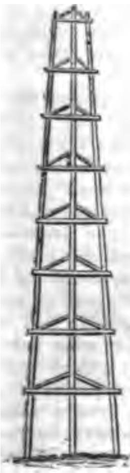

Fig. 1.

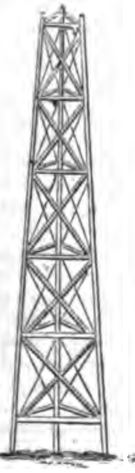

Fig. 2.

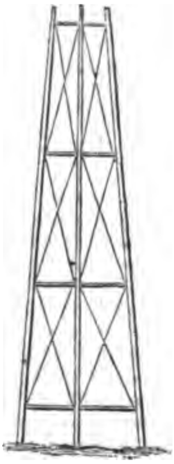

Fig. 3.

Supports for Climbing Plants, are often constructed as shown by Fig. 1, being made of durable wood and painted green or white. An improvement on this form is made by attaching the smaller or connecting strips in such a manner as firmly to brace the whole together, and at the same time to add to the appearance, which is of some consequence until the frame is wholly covered with verdure—figs. 2 and 3. Fig. 3 represents only one of the three sides of the frame.

We gave in a former number of this paper, (p. 277, 1849,) a figure and description of a very simple and substantial support for climbing roses, made by boring holes at short intervals through a single, neat upright post. Through these holes, the long flexible stems are made to pass as they ascend in growth, at the same time running them in a twining direction around it. But a difficulty exists with tender roses and other tender climbers, as the grandiflora, &c. This is obviated by means of the annexed contrivance, which allows the prostration of the support with all its load, every autumn, for covering it as it lies upon the ground. A short substantial post of red cedar or other durable wood is inserted into the ground, projecting a foot or more above it, fig. 4, in which a space (*a*) is cut for the reception of the support. The latter is kept firmly in its place in an upright position, by means of the two pins, *b*. *b*., fig. 5. On the approach of winter, the upper pin is withdrawn, which allows the support to be laid flat upon the ground for covering, as in fig. 6.

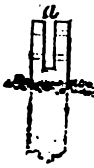

Fig. 4

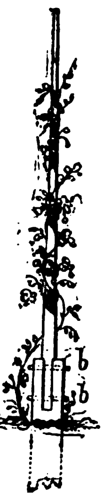

Fig. 6.

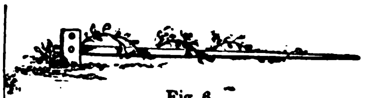

Fig. 6.

Fruit Ladders.—Convenient fruit-ladders greatly facilitate the gathering of fruit, prevent its becoming bruised, and save it from mutilation by chafing. A very simple, cheap, and convenient self-sustaining ladder, is represented in fig. 7, the legs and cross rods of which may be about the size of, or slightly larger than those of a common chair. The small plank platform at the top may be 6 by 9 inches. The whole may be about 3 feet high, and will be nearly as light as an ordinary chair, and it will be found extremely useful among the smaller trees, or for the lower parts of full-grown ones.

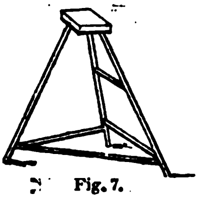

Fig. 7.

The form represented in figure 8, having two folding legs, like those of a tripod, turning on joints, may be from 6 to 10 feet high.

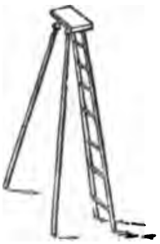

Fig. 8.

An improvement of the latter has been made by continuing the two sides of the ladder to a point, *a*, fig. 9, which the more readily enables the operator to thrust it up among the branches, and often enables him to support himself by holding to it. The legs turn at the hinges, *b*., and may be folded up to the ladder when not in use, as in the preceding instance.

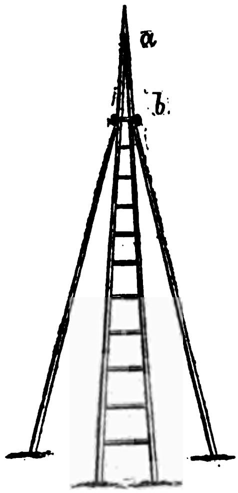

Fig. 9.

The *Orchardists' Crook*, fig. 10, consists of a light rod, with an iron hook at one end, and a piece of wood made to slide along it. It enables the operator to draw down the flexible branches of fruit trees within his reach, and retain them there while the fruit is picked from them. In using it, the operator draws down the end of the branch with the hook, and fastens it by the sliding piece to another branch below. The slider passes freely along the rod when not in use, but ceases to slide by the friction of the side-strain, when fastened to the branch.

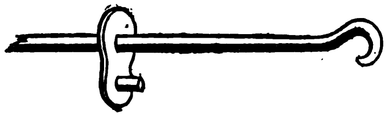

Fig. 10.

The *folding ladder* may be closed together with the facility of a pair of compasses; it then becomes a round stick, easily carried in one hand. It is made of strong light wood, and its construction may be readily understood by fig. 11, representing the ladder as open, as half-closed, and as closely shut. An enlarged longitudinal section shows the manner in which the rounds lie in the grooves or concave beds in the sides or styles; above which is a cross-section exhibiting the semi-oval form of the styles. The ends of the rounds turn on iron pins, slightly riveted outside. The rounds resting on shoulders, when the ladder is opened, render the whole stiff and firm. A ladder of this construction is found very useful, not only in fruit-houses, where a common ladder could not be conveniently carried but in pruning standard trees, because it can be thrust through the branches like a round pole, without the least difficulty, and when once there, it is easily opened.*

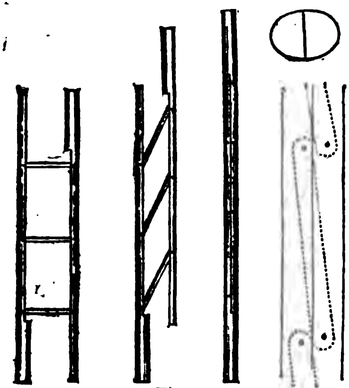

Fig. 11.

Autumnal Flowers.

From an unpublished Address before the Aurora Hort. Society. By **David Thomas**, *President.*

——The blossom is the tenderest part of the plant; and such as can long withstand severe frosts, are very rare. The *Snow-drop* indeed, often stands in the frozen soil—supposed to have thawed a passage through it by pressing up its head—and the flower remains unsubdued by all the lingering storms of winter. The *Eranthis* may also be given as another instance of great hardiness; but the most remarkable of these *exceptions to a general rule* is found in *Helleborus niger* from Austria, which blooms on the edge of winter; and I have seen the same flower come forth in the spring from under the snow, after a repose of four months. It is white on the inside, touched with red externally, and sometimes nearly three inches in diameter. In England it is called the *Christmas Rose*, but it has no affinity to any other rose; and though very pretty, is considered poisonous. This trait, however, is scarcely objectionable; it is selected for its beauty, like most other flowers, and not for its esculent qualities. Such plants indeed, may indirectly assist in the education of children, and even some of a larger growth, by having them taught to keep their fingers to themselves in strange places—a lesson highly useful in after life.

From the milder climates of the Eastern continent, we have several plants that *always bloom in autumn*—some earlier, some later—such as *Cyclamen hederæfolium*, several species of *Colchicum*, Yellow *Amaryllis*, and two species of *Crocus*—one yielding the genuine saffron of commerce. These are all bulbous or tuberous rooted, and *never flower at any other season*. There are late-blooming plants however, that require all the genial months to prepare their stems and flower buds,—as some of the *Asters* and *Gentians;* and this reason seems sufficient to account for *their* lateness; but what should cause the others to anticipate the spring, is a mystery not easily explained. That *climate* has had something to do with it, is highly probable,—for I know of no instance of the kind among American plants with bulbous or tuberous roots. The *Witch Hazel* indeed, flowers late in autumn; but it stands apart and remote from the former class, and constitutes a remarkable exception to the general laws of vegetable life. At the very time that the sap ceases to nourish the leaves, and while they turn yellow and drop from the branches, which indicate in other trees a dormant state—those identical branches burst into bloom, and impart a cast of cheerfulness to the solitary woods.

There are other plants from Europe, besides the former, that in mild, wet autumns begin to flower, although they commonly wait till the following year, such as the *Auricula*, the *Primrose*, and the *dwarf yellow Iris;* but with withered leaves lying round them, and chilling winds blowing over them, they have less power to cheer and exhilarate, than when they *shine out* in spring.

From a lower latitude than ours, where the autumnal sun dispenses a warmer ray, and continues longer above the horizon, the *Chinese Chrysanthemum* was brought to extend our season of flowers. I believe these numerous varieties have generally been treated as *house plants;* but they are said to do better in the open ground where they receive the reflected heat from a building, and are protected from those frosts that precede the approach of winter. Near Philadelphia, where the growing season is longer, such protection is less needed; and there I have seen them in great glory; but even here the warmth of a small stove enclosed by a thick curtain, might carry them safely through this period of trial, —for we all know that after some severe weather in autumn, we have often many fine days, and sometimes even weeks, in which such a mass of bloom, so varying in its tints—would gladden the heart of a florist.

Connected with this subject—I mean the guarding of plants in frosty nights,—science was for a long time in the rear of practical knowledge. Within the present century, however, the *radiation of heat* has become better understood; and it is now known that every clod and stone and plant,—exchanges heat with every other thing that a *direct ray* can reach, until, if not interrupted, the temperature between them becomes equalized. A plant however, radiating to the open sky from which there is scarcely any return, will cool off in half the time that another will at the foot of a high wall, because half the sky is shut out from the latter. Now if over this plant a tile project horizontally from the wall, a still greater portion of the sky is excluded; and in frosty nights, this shelter would often be sufficient to protect tender flowers; but it would be an improvement to have a shelf with hinges—dropping down to admit the sun and rain, or spreading out to preserve the radiated heat.

The value of such projections was known in the early part of the last century, perhaps earlier. Lawrence, in his volume on Gardening, printed more than 120 years ago, said "they were found to answer to a wonder," and to secure the trained fruit wherever they were placed. In attempting to explain this result, however, he has given us a rare specimen of philosophy. He says:

"Most of our frosts and blasts, both in spring and autumn, *fall perpendicularly;* and therefore, the more any thing lies open and exposed to *this perpendicular descent of vapors*, the more will it be subject to be frozen and blasted. When a fruit tree has been trained against a *slope wall*, [not upright] we always find that that is the first and most blasted. This therefore being the true state of the case, *horizontal shelters* are the best guard and defense against perpendicular blasts."

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* This description is copied from the Am. Fruit Culturist.

American Pomological Congress.

ITS LISTS OF SELECT FRUITS.

Our readers will doubtless remember that the American Congress of Fruit Growers, more than a year ago, adopted a list of select fruits, "worthy of general cultivation," prepared by a committee of nine. The list, though small, comprised all that the committee could then agree upon, three negative votes out of the nine, being regarded sufficient to exclude any sort. At the late meeting of the same body the past autumn, a considerable number were added; and we give below the combined results of these two years' deliberations, which, though not wholly perfect, may be regarded as a selection by the *highest American authority.*

APPLES—24 *sorts.*

1848.	1849.
Early Harvest,	Swaar,
Large Yellow Bough,	Porter,
American Summer Pearmain,	Fameuse,
Summer Rose,	Vandevere,
Early Strawberry,	Hubbardston Nonsuch,
Gravenstein,	Danvers Sweet,
Fall Pippin,	Bullock's Pippin,
Rhode Island Greening,	White Seckuofurther,
Baldwin,	Winesap,
Roxbury Russet.	Lady Apple,
For particular localities,	Wine Apple,
Yellow Bellflower,	Red Astrachan.
Esopus Spitzenburgh,	
Newtown Pippin.	

PEARS—35 *sorts.*

1848.	1849
Madeleine,	Rostiezer,
Dearborn's Seedling,	Andrews,
Bloodgood,	Fondante d'Automne,
Tyson,	Fulton.
Golden Beurre of Bilboa,	Urbaniste,
Bartlett,	Vicar of Winkfield,
Seckel,	Uvedale's St. Germain or Pound,
Flemish Beauty,	Louise Bonne of Jersey,
Beurre Bosc,	Uvedale's St. Germain, *for baking*
Winter Nelis,	
Beurre d'Aremberg.	
For particular localities,	
White Doyenne,	
Gray Doyenne.	

The following list of *new sorts*, adopted as *giving promise* of being worthy to be added:—

Beurre d'Anjou,
Doyenne Boussock,
Manning's Elizabeth,
Doyenne d'Ete,
Striped Madeleine,
Duchesse d'Orleans,
Pratt,
Paradise d'Automne,
Van Assene,
Jalouise de Fontenay Vendee
Chancellor,
Ananas d'Ete,
Brandywine,
Ott.

PEACHES—10 *sorts*—1848.

Grosse Mignonne,
George IV,
Serrate Early York,
Large Early York,
Morris White,
Oldmixon Freestone,
Cooledge's Favorite,
Bergen's Yellow,
Crawford's Late.
For particular localities,
Heath Cling.

PLUMS—12 *sorts.*

1848.	1849.
Jefferson,	*New sorts, giving promise of being worthy to be added.*
Green Gage,	
Washington,	Rivers' Favorite,
Purple Favorite,	St. Martin's Quetsche,
Bleecker Gage,	McLaughlin.
Coe's Golden Drop,	
Frost Gage,	
Purple Gage,	
For particular localities,	
Imperial Gage.	

CHERRIES—8 *sorts*—1848.

Mayduke,
Black Tartarian,
Black Eagle,
Bigarreau or Graffion,
Knight's Early Black,
Downer's Late,
Elton,
Downton.

APRICOTS—3 *sorts*—1849.

Large Early,
Breda,
Moorpark.

NECTARINES—3 *sorts*—1849.

Downton,
Elrage,
Early Violet.

GOOSEBERRIES—10 *sorts*—1849.

Houghton's Seedling,
Woodward's Whitesmith
Crown Bob,
Red Champagne,
Warrington,
Laurel,
Ironmonger,
Early Sulphur,
Green Gage,
Green Walnut.

GRAPES—10 *sorts*—1849.

For culture under glass—

Black Hamburgh,
Black Prince,
Black Frontignan,
Grizzly Frontignan,
White Frontignan,
White Muscat of Alexandria,
Chasselas of Fontainbleau.

For open culture—

Isabella,
Catawba.
Giving promise of excellence,
Diana.

CURRANTS—5 *sorts*—1849.

Red Dutch,
White Dutch,
Black Naples,
May's Victoria,
White Grape.

RASPBERRIES—4 *sorts*—1849.

Red Antwerp,
Yellow Antwerp,
Knevett's Giant,
Fastolff.

STRAWBERRIES—5 *sorts*—1849.

Large Early Scarlet,
Boston Pine,
Hovey's Seedling,
Giving promise of excellence,
Burr's New Pine,
Jenny's Seedling.

The following list of REJECTED FRUITS, occupied the attention of the Congress for one entire day, and sentence was passed upon each sort separately. A single vote in favor of any sort, was sufficient to rescue it from this list, which is therefore the result of unanimous condemnation. It will doubtless be of essential use in preventing cultivators from procuring or retaining any of these worthless varieties.

APPLES.

Gloucester White,
Henry's Weeping Pippin,
Gray House,
Red Ingestrie,
White Ingestrie,
Lord Nelson, (Kirke's,)
Marmalade Pippin,
Rowland's Red Streak,
Woolston's Red Sweet,
Woolston's White Sweet,
Golden Reinnette,
Pennock,
Hoary Morning,
Large Red Sweeting,
Red Doctor,
Grand Sachem,
Beachamnull's,
Cathead,
Caroline, (English,)
Dodge's Early Red,
Fenouillet Rouge,
French Gray Reinnette,
Muscovia,
Irish Peach,
Pigeonette,
Salina.

PEARS.

Croft Castle,
Alexander of Russia,
Admiral,
Aston Town,
Autumn Bergamot,
D'Amour,
Angers,
Beurre d'Angleterre,
Beurre Sentin,
Beurre of Boswiller,
Bon Chretien d'Esperen,
Bon Chretien of Brussells,
Bergamotte Sylvange,
Bergamotte Fortunee,
Beauty of Winter,
Belmont,
Bezi Vaet,
Bruno de Bosco,
Blangent a longue guene,
Bingo Master,
Cavelier,
Chat Grille,
Chain a Dame,
Charles Van Mons,
Cassolette,
Compte de Fresnel,
Copea,
Caillat Rosat,
Clara,
Clapp,
Citron de Sierens,
Dearborn of Van Mons,
Downton,
Duquesne d'Ete,
Doyenne Mons,
Deschamp's New Late,
Dunbarton,
Doyenne Diere,
Endicott,
Elton,
Frederic of Prussia,
Famenga,
Forme Urbaniste,
Fantasie Van Mons,
Forme des Delicas,
French Iron,
Green Zair,
Grise Bonne,
Garnstone,
Green Catharine,
Green Sugar,
Gros Blangart,
Green Chisel,
Hays,
Hathorne's Seedling,
Horticulture,
Hastivia,
Ipswich Holland,
Jargonelle, (of the French,)
Kramelsbirne,
Lincoln,
Louis of Bologna,
Lederbirne,
Louis Bonne,
Lansac,
Madam Vert,
Millar's Seedling,
Marquis,
Marcelis,
Navez,
Orange,
Orange Tulippe,
Phillips,
Pittfow,
Platt's Bergamot,
Passe Long Bras,
Prince's Portugal,
Pope's Scarlet Major,
Pitt's Marie Louise,
Royal d'Hiver,
Rouse Lench,
Rousselett St. Vincent,
Sans Pepins,
Swan's Egg,
Surpass Meuris,
Saint Bruno,
Swiss Bergamot,
Souscreine,
Sickler,
Thompson of New Hampshire,
Tucker's Seedling,
Yrubeerhordz Dulle,
Whitfield,
Winter Orange,
Wurtzer d'Automne,
Yutle,
Crassane,
Winter Crassane,
Citron of Bohemia,
Madotte.

Scraps about Trees.

1. Cherry Trees split by Frost.—It is well known that the trunks of cherry trees, and especially those of the most vigorous growth, are often split in the winter by the severity of the frost. This is probably owing to the quantity of sap being disproportionate to the wood, which being overcharged by the distension, and incapable of expansion, bursts in the direction of the grain, (as it is called) and sometimes lays open the wood to the centre of the tree. I have been informed of instances where this has proved fatal. I am able, however, to report from my own observation, an instance where no serious injury followed. A cherry tree a dozen years old, and ten or twelve inches in diameter, in the severest frost of winter was split so that one's hand might be thrust to the centre of the tree. The fissure extended from the ground entirely up to the first offset of branches. The remedy applied was to protect the wounded part by a thick covering of woolen cloth closely wound round the tree, and kept there until late in the spring. The parts united the same season, and neither the growth or fruitfulness of the tree seemed to be affected.

Two years afterwards, in the coldest weather of the winter, the tree split again in the same manner, and was treated as before. It flourished and bore the following summer as well as ever, yielding some eight or ten bushels of cherries.

2. Seedling Cherry Trees.—The tree above mentioned is a seedling, the fruit of which has some affinity to the Black Mazzard, but is larger, thinner-skinned, and more pulpy than any known variety of that cherry. The tree itself is not excelled in size or bearing by any in this vicinity. Eleven bushels of choice fruit have been gathered from it the past year and measured, besides some three or four bushels by estimation, not measured. The yield has been not less than eight bushels in any year, for the last five years; and the tree, being now about eighteen years from the seed, is still rapidly growing. I mention these particulars as suggestive to our nurserymen, upon the subject of experimenting with seedling cherry trees. If seedlings are apt to be more vigorous, longer lived, and greater bearers than grafts; though but one in a thousand should prove of a quality worth preserving, is it not worth while to try them more extensively? I do not mean to insist that the above instance *proves* that a seedling is in any respect better than a grafted tree, because the favorable circumstances of soil, shelter, supply of moisture, &c., which might be mentioned, may have been so combined as to have produced a similar result without regard to the character of the tree as a seedling. It is adduced as one instance of many, the comparison of which may be of use in connection with the favorite theory of some tree-growers in favor of seedlings.

3. Trees Exposed to Sea-winds.—What species of tree is best for places exposed to the rude winds from the Sea? The Savin is undoubtedly best adapted to these situations, but it is a slow grower, and the method and proper time of transplanting and rearing do not appear to be well understood, at least in these parts. I have tried the Elm with indifferent success, perhaps from want of proper care. Have any of the patrons of *The Cultivator* on Long Island, or elsewhere on the sea coast, succeeded with the Elm on the immediate bank of sea water, and where there is no shelter from the winds? Let us have the results of their experience. I find the following in that valuable work, "Sears' Pictorial Description of the British Islands:"

"Pennsylvania castle, the residence of the late Governor Penn, is the only place in Portland assuming the dignity of "a seat;" and is also the only spot on which any thing like a clump of trees is visible. An old historian speaking of this circumstance says 'there be very few or utterly no trees saving the elms about the church. There would grow more if they were there planted; yet is the isle very bleak.' This simple remark has been amply verified in the grounds before us. The common sycamore will stand the severest sea breezes, and under the shelter it affords, almost any forest tree may be grown. By surrounding his land with a ring fence of them, Mr. Penn succeeded in embossing his house with a very agreeable variety of trees and shrubs, while all around him was a desert."

The shores of Narragansett Bay, in this State, though beautiful in some of their features, are deficient (and especially the islands) in trees. I am assured that many of the farmers down the bay would border, if not surround their lands with these same "ring fences," if they had any confidence that the trees would grow when there planted.

4. The Aphis on Apple Trees.—This insect has been very destructive to the fruit all along the New England sea coast the last season—more so than ever before. The disease or blight occasioned by it is often mistakenly ascribed to other causes. A friend has related to me his experience in the application of the Whale-oil soap to the trees early in the spring, by which he prevented a recurrence of the plague. If I can obtain the details with sufficient accuracy, I will forward them for publication. J. H. W. *North Providence, R. I., Dec.*, 1849.

Osage Orange Seed.

Much difficulty having been experienced in causing the seed of this celebrated hedge plant to vegetate, various expedients have been devised to remove the difficulty, as soaking the seed, exposing it to frost, &c. We are induced to believe that the failure to grow has often resulted from the long time that has elapsed after gathering till the seed is planted, most of it being procured in Texas, and often a year or two old. Under such circumstances, it must come up more thinly than when fresh. The best success ever experienced by the writer was with seed gathered in one of the Southern States by a careful friend, and forwarded immediately. It was planted with no preparation, and came up very thickly. We would suggest the propriety of dealers employing reliable agents where it is grown, who will forward it when fresh.

The Curculio.

Many persons adopt some particular remedy, to the exclusion of all others. Paving under the tree, repelling by the odors of fermenting manure, jarring down on sheets, shutting out with a high tight fence and destroying by geese and swine, all have imperfectly or wholly succeeded, as the remedy has been partially or vigorously applied, or as the insects have been few or numerous. A combination of two or more of them will often be found most efficacious. Paving, and a high fence are costly, large heaps of manure are not neat, and swine do not always do the work up wholly. Jarring down too often fails from beginning too late, and intermitting too frequently. We have secured completely large crops, in seasons when the curculios were so abundant as that single trees would yield 15 or 20 at a single jarring. The work was, however, begun early, and continued twice or three times a day. Yet the whole labor for 20 trees was not more than equal to the cost of paving one tree. Probably a combination of this mode, with the employment of swine, would answer in nearly all instances.

Freezing out the Curculio.—It is not unfrequently recommended to invert the soil by spading, just before winter, to freeze out the dormant curculios. The writer has pursued this course for several years past, with a number of plum and apricot trees (not, however, with any reference to the curculio,) without the slightest apparent effect on the operations of these depredators.

Wire Fence.

Much has been said in the papers in favor of the cheapness and durability of wire fences. We fear that a few years' trial will disappoint many who have erected them. If the wire is so light as to be afforded at less than two dollars per rod, heavy cattle will frequently snap it by accidentally plunging against it, if it is tightly stretched. If slack, its frequent swaying motion serves in the course of time to crack it off at the post, which tendency is greatly increased by the water which lodges in the holes and gradually diminishes its strength by rusting.

Hardiness of the Buckthorn.

A hedge of three year old plants was set out last year, four hundred feet long. It was done quite late in the season, most of the trees having already made shoots four or five inches long. They were cut down to within two or 3 inches of the ground, and although the roots were not *mudded*, scarcely one in a hundred failed to grow. The dense mats of small fibres which constitute the roots of the buckthorn, are removed from the soil with very little loss, and contribute to success.

The Curculio.

Eds. Cultivator—In this section of the country, for some time past, the plum crop has with but few exceptions, fallen a prey to the curculio or plum weevil; so much so at least that the fruit-growers in this neighborhood have become quite discouraged in attempting the cultivation of this valuable fruit, from the fact that their labor is lost, their expectations blasted; and they have the mortification of seeing nearly all, or indeed, often, the whole crop fall from the trees when half or two-thirds grown. I have tried several remedies to preserve my plums from the ravages of this uncompromising foe of all smooth-stoned fruits, such as the use of salt, and gathering up the punctured fruit, &c., with but little success until this season. Having read in your valuable journal, *The Cultivator*, of June, 1848, on page 182, a plan for destroying the curculio, and preserving the fruit, which was the jarring down of the insects on muslin, and so destroying them, I adopted the plan; and having furnished myself with an umbrella eight feet in diameter, covered with white muslin, with an opening between the arms to receive the trunk of the tree, and a mallet cushioned at the end to prevent its injuring the bark of the tree; as soon as the blossoms had fallen and left the newly formed fruit exposed, I commenced a vigorous attack upon the wily foe, which had already commenced the work of destruction, by jarring them down on the umbrella spread under the trees to receive them. This I repeated every day for nearly two weeks, or as long as a curculio could be found, during which time I captured thousands of the foe; and the result was that I had the satisfaction of seeing my plum trees loaded with an abundant crop of fine ripe fruit, while those of my neighbors were nearly or quite destroyed, especially those of the choicer varieties, which seem to be more subject to the attacks of the curculio than those of less merit; and I believe any one who will take the pains to try the above plan, will find his labors crowned with success. R. H. Drake. *Bloomingburgh, Sullivan Co., N. Y., November* 14, 1849.

The Everbearing Raspberry.

Eds. Cultivator—Your correspondent in *The Cultivator* for November, has not, I believe, cultivated the Ohio Everbearing Raspberry sufficiently to judge of its bearing qualities, and the best soil for it. I have cultivated in my garden for 17 years, this plant, in a rich, deep, porous soil, and the first crop is a very large one. But my soil is too dry for it during the summer and fall, and my vines bear sparsely the residue of the season. In the gardens of Mr. Buchanan, Mr. Ernst and others, in the vicinity of the city, where the soil is a natural one—rich, but not deep,—stiff, with a subsoil of clay,—they have an abundant supply till frost, and the fruit of the succeeding crops is much larger than the first.

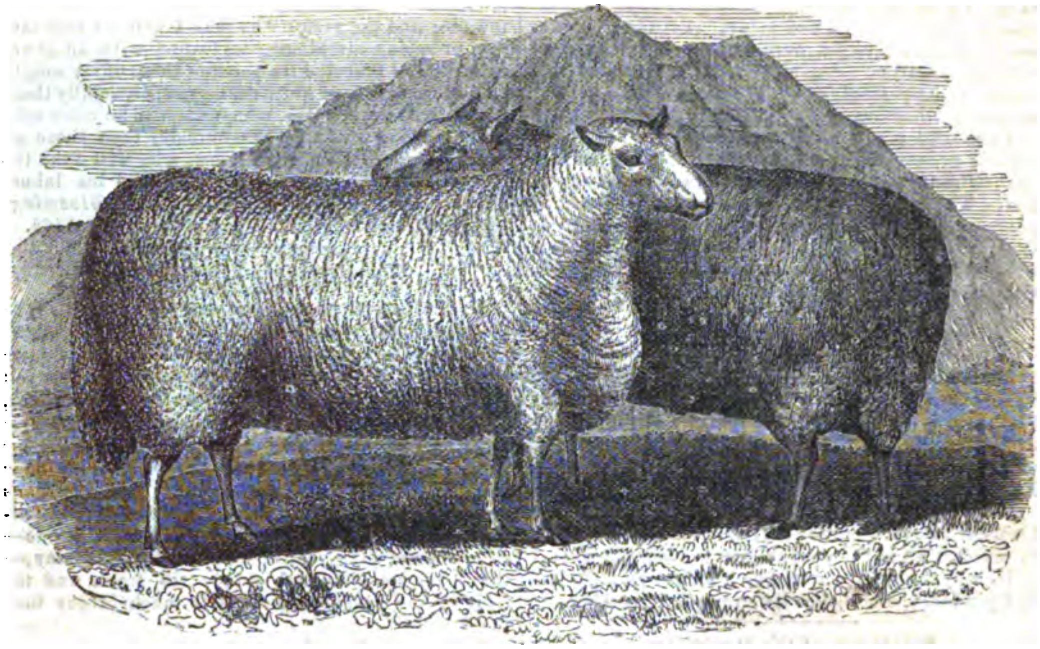
In Newark, New Jersey, in the garden of my sister, where the soil is poor, but stiff, the shoots do not grow half the length that they do in my garden, yet the fruit is larger, and the crops four fold, compared with mine. A majority of persons at my table prefer it to the Antwerp, when both are on the table. I prefer the Antwerp. It certainly belongs to the Black Cap family. Could it not be crossed with the Fastolff or Antwerp, and its everbearing character retained?

I concur with your correspondent in opinion about the Alpine strawberry. In some climates and soils it may succeed better than with us. I believe this to be a distinct kind, and that from a cross with our scarlets, bearing seedlings cannot be produced. By the way, have your Eastern cultivators come to any settled opinion, about the absolute necessity of cultivating pistillate plants, where an abundant crop, or even half a crop is an object. Mr. Ernst informs me, that the present President of the Boston horticultural Society, is of opinion that in an average of years, he can raise as full crops from the hermaphrodites alone, as where 11-12th are pistillate. I know that the opinion of the late President was directly the reverse of this. With us, not one of your hermaphrodites, will average one-fifth of a crop.

I shall this fall, move all my Ohio Everbearing raspberries, to the gullies in the Garden of Eden, where the soil is thin and stiff; where the blackberry grows and bears much finer than in my garden, and an abundant crop through the season will be certain. N. Longworth. *Cincinnati, O., Nov.*

Large Apple Tree.—The *Boston Traveller* says a large apple tree at Duxbury, sixteen feet in circumference a foot or two above the ground, (5 ft. in diameter) and over a hundred years old, bore in one year fruit which made ten barrels of cider, in addition to thirty barrels of apples put into the cellar.

Hedges for flooded Lands.—M. B. Bateham, of the *Ohio Cultivator*, states that a two-year-old osage orange hedge was submerged a week without injury, where peach trees were killed by the flooding.



CHEVIOT RAMS,

Which received the prize of the Highland and Agricultural Society of Scotland.

The Cheviot Breed of Sheep.

There are various reasons why, in a country like ours, it is expedient to keep several breeds of sheep. Different qualities of wool are required for the manufacture of different kinds of goods; and for our great range of climate and diversity of soil and aspect, animals of different characteristics, as to constitution and habits, are required for the different locations. The sheep which produce the finest staple of wool, are unsuited to coarse food and exposure to great changes of weather. So too, in regard to the production of mutton; those breeds which attain the greatest size, and fatten most readily, with an abundance of food in a mild climate, have not the hardiness and muscular vigor necessary to adapt them to cold and mountainous districts. Hence, in Great Britain we find the Leicesters, Lincolns, and other heavy long-wooled breeds, occupying the warm and fertile valleys and rich grass lands; the South Downs and similar breeds, the intermediate uplands; while lighter and more active breeds are kept on the heaths and mountains of Wales and Scotland.

From the increasing demand and enhanced price of mutton in this country, many farmers have lately turned their attention to the production of this article. With this view, different breeds of English sheep have been procured. The Leicesters and South Downs have been considerably tried, and with varied success. In some instances both have failed from improper management. But in general, we think the Leicesters have hardly sufficient hardiness to endure the extremes of temperature, from the heat of summer to the cold of winter, which occur in our climate. It is true they vary in this respect, and some skillful breeders have given to their sheep much better constitutions than those of this breed in general possess. The improved Cotswolds, or New Oxfordshires, though derived from crosses with the Leicester, are more hardy and produce more wool. For many situations, it is desirable to obtain a breed more hardy than either of these.

The Cheviot breed, represented by our cut, is not at present, much known in this country. We have heard of only two importations; one by Hon. DANIEL WEBSTER, of Massachusetts, and one by Col. T. J. CARMICHAEL of Wisconsin. From the locality they occupy in their native country, and from all we can learn of their qualities, we think they would be valuable for many parts of the United States. In answer to an inquiry, Mr. WEBSTER writes us in regard to his Cheviots, as follows:

"They are very handsome, coming fully up to the cuts of them which you find in the English publications. I do not think mine are very large, as my pastures are not rich, and I have taken no particular pains with them. I have had no very great experience of them, as to their mutton, as yet; but some wethers have proved very good. I think the breed fattens readily."

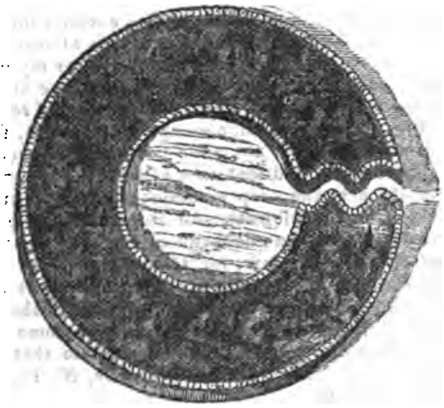
They take their name as a breed, from the Cheviot range of hills, on the border of England and Scotland, where they have existed from time immemorial. They have lately been improved by a cross with the Leicesters; and have been adopted with great success in many parts of Scotland, heretofore occupied by the black-faced mountain sheep. In relation to the breed, Martin gives the following description:

"They are full behind the shoulder, and the forequarters are justly proportioned to the hind; they are straight in the back, round in the rib, clean and small boned in the limbs; the wool, which is of a quality useful for many combing purposes, comes forward behind the ears, but leaves the face uncovered. The Cheviot sheep is capable of enduring much cold and privation; it possesses considerable fattening properties, the wethers being ripe for the butcher at two years of age; and averaging from 15 to 18 lbs. the quarter. The mutton is excellent. This description applies to the Cheviots with a cross of the Leicester. In all that regards size, form and contour, they are superior to the old breed; but the wool has become coarser and longer."

Count de Gourcy, a French gentleman who made a tour through England and Scotland in 1840, thus speaks of the Cheviot sheep which he saw on the mountains of Sutherland:

"I was surprised on going over these horrible mountains and miserable pastures, to see them stocked with such fine animals, yielding, on an average, five pounds of long and beautiful wool, washed upon the back; wethers three and a-half years old, without having eaten any other thing than what is to be found in these wilds, weighing, alive, 200 English pounds, together with ewes that at 5 years old, and with he same feed, are fat, and weigh from 60 to 70, and even 90 pounds. What I have seen in this journey, makes me more convinced than ever, that the Cheviot breed is one of the highest merit; since they live and prosper on such land, under such a severe climate, and that, too, without other food than what these wilds furnish."

Protection for Sheep.—If there is one point in sheep-husbandry of more especial importance than all others, it is *shelter*. This remark will apply to almost all countries where sheep are kept; though the character of the shelter may vary of course, with the nature of the climate. In southern latitudes it is not necessary to guard against deep snows; but most sections are subject to violent storms of rain, which are very prejudicial to the health of sheep, if obliged to endure them without some protection.



Stell for sheltering Sheep.

The circumstances which affect the keeping of sheep on our western prairies, and on the mountains of our southern states, must bear some analogy to those of Scotland; and if this kind of stock is ever made protfiable on a large scale in those parts of our country, ample protection from the driving storms and boisterous winds which there prevail, must be provided. For this reason we have thought it proper to introduce here, a description of a kind of shelter which has been resorted to in Scotland with great advantage. The flocks kept in the mountainous region of that country, formerly suffered immense destruction during winter, when

"——— oft the whirlwind's wing
Sweeps up the burden of whole wintry plains
At one wide waft, and o'er the hapless flocks,
Hid in the hollow of two neighboring hills,
The billowy tempest whelms, till upward urged,
The valley to a shining mountain swells,
Tip't with a wreath high curling in the sky."

The shelter to which we allude, has been found an efficient protection against the storms which prevail in the Highlands; and to give some idea of their severity, it may be useful and interesting to the reader to peruse a brief description of the consequence of one, which occurred before this kind of shelter was introduced.

Hogg, the "Ettrick Shepherd," describing the effects of the storm of the 24th and 25th of January, 1794, says—"it fell with peculiar violence on that division of the south of Scotland which lies within Crawford-muir and the Border. There perished within these limits, seventeen shepherds; and upwards of thirty were carried home insensible who afterwards recovered. The number of sheep that were lost, outwent any calculation. One farmer alone lost seventy-two scores, and many others in the same quarter from thirty to forty scores each." He adds, that when the snow melted, it caused a flood, and after the water had subsided, there were found, at a place called the Beds of Esk, on the shore of Solway Frith, 1,840 sheep, 9 neat cattle, 3 horses, 2 men, 1 woman, 45 dogs, and 180 hares, besides a number of smaller animals.

William Hogg,—who, like his namesake, the Poet of Ettrick, has been "a keeper of sheep,"—in a communication to the *Scottish Quarterly Journal of Agriculture*, written in 1843, gives a vivid account of this storm, to which in guarding his sheep, he was exposed in person. "The storm came on in its greatest severity in the night, and was heavy beyond all former precedent. Mr. H. says—"I was in a lone, desolate part of the mountains, and felt the snow as it fell, like a dead weight on my shoulders, and the desert place seemed to sigh with the extraordinary burden which lay upon it." When the clouds finally dispersed, he says—"I was glad and I ought to have been thankful, when I once more felt the sun's cheering beams; but such a scene! The poor creatures lay huddled together dead, in dozens, scores and hundreds; the extraordinary severity of frost and strength of wind had reached their vitals, I think, in a few minutes after foundering down with cold; many were also smothered deep at the bottoms of immense wreaths, and were not found till the thaw came. There was scarcely a pastured district where there was not some human being perished, and many sheep."

The serious losses sustained in the manner above described, induced the farmers to turn their attention, earnestly, to the means of protecting their sheep; and after having tried structures of various kinds, the superiority of those represented by the accompanying cut, has been fairly demonstrated. These structures are called *stells*, and the one here delineated is called an "inside stell." It consists of two concentric circles of wall, enclosing a plantation of fir, or other evergreens, having a circular space in the centre for sheep. This centre may be of any size desired; if it is from 30 to 60 feet in diameter, it will accommodate from seventy-five to one hundred and fifty sheep. A sufficient number should be erected to accommodate the whole flock. This belt of trees completely secures the sheep in the enclosure from the force of the wind, affording a quiet and safe shelter at all times. The walls of the passage are made winding, which prevents the wind from blowing into the central space.

In this country, it is probable, the best trees for such plantations, would be the red and white cedars, hemlock, spruce and fir. A belt of a rod in width, if the outside was planted sufficiently close, would soon form a screen, and admirably shelter the inside enclosure.

These stells should constitute the feeding yards. In, or near them the fodder should be secured. The feeding-racks may be placed under cheap sheds, made of boards, or with poles covered with straw. In these protected situations, they would not be blown down by wind. Where stones cannot be had for forming the walls, turf embankments will answer to protect the trees while they are small; after they have become strong, they will need no protection. The manure could be all saved here, and carted to places where it was most needed.

In regard to the location of these structures, Mr. William Hogg directs that they be "situated on that department of a farm where the sheep most easily congregate in times of difficulty. Their particular site should lie apart from rocks, steep or abrubt precipices. Such obstacles to the tempest only redouble its fury, and at uncertain intervals throw the regular current of the wind and drift into furious rushes, almost in every direction. If it be possible, they should be placed where the general stream of wind is not obstructed nor hurried by any object on the earth's surface, but where it blows constantly, open and free."

With such shelter as is here proposed, the health and vigor of the sheep would be secured, and the great losses which are now annually sustained from undue exposure, would be avoided. The sheep will naturally gather round these sheltered places in inclement weather, and will pass and repass, as they find most conducive to their comfort. Their health and strength being preserved, they will eat their food with a good appetite, and will graze, or feed at the racks, according to the state of the weather. "Instinct" as a Scottish writer observes, "will teach them when to fly for shelter, and when to return to the pasture; at the same time the shepherd may be with them, rejoicing in his own safety as well as theirs."

The Farmer's Note-Book.

Subsoil Plowing.

Eds. Cultivator—Professor Johnston, in his Agricultural Chemistry, observes that in sandy, and generally all light soils, of which the particles are very fine, the capillary action is of great importance, and intimately connected with their power of producing remunerating crops. That they absorb the falling rains with great rapidity; and these carry down the soluble matters as they descend. On the return of dry weather, the water re-ascends from the lower strata, and again diffuses the soluble ingredients through the upper soil. A writer in the October number of the Horticulturist, remarks that this action is very much aided by a trenching of such soils, provided the best soil is always kept on the surface.

Now this commends itself as sound reasoning; and yet, it is so unlike the results of an experiment I tried the past summer, on similar principles, that I am constrained to submit the case to you, and learn in what manner you will account for a difference I shall proceed to state, without repudiating this doctrine.

It was conducted upon a piece of five acres of land—a sandy loam—resting upon a subsoil of yellow loam. There was drawn upon it, the past winter, some two hundred loads of manure, which in the spring was evenly spread, and the ground plowed; using on one-half of it a subsoil plow, that was driven eight inches deep, making a united depth of sixteen inches with both plows. It was then thoroughly harrowed, and on the 12th of May planted to corn.

The early growth of it was soon vigorous and luxuriant, with no perceivable difference between the portion subsoiled and the other, and so continued until about the middle of July, when it *all* became very much affected by the severity of the drouth that prevailed. It was then I expected to realise the advantages of the subsoil plowing, in a facilitated capillary attraction, as well as a more abundant aliment from the wider and deeper range thus secured to the roots; but it was not perceptible, nor did any difference manifest itself until the harvesting the crop. All of it having suffered very much from the effects of the drouth, and, so far as I could judge, alike.

That portion of the row, up to the point where the subsoiling commences—and which was of the same length, and contained the same number of hills as that subsoiled—yielded one-half bushels of ears of corn *more* than the part subsoiled. And this difference was very nearly uniform in each row,—. thus proving, very conclusively, that the subsoiling, so far at least as this crop was concerned, was a decided injury rather than benefit.

Now, Messrs. Editors, you who are "bound to know everything," will you please account for this difference? You see, readily, that it is at war with the theory quoted at the outset; nor does my mind suggest any reason, satisfactory for it, save one, at variance when *applied to this character of soil,*—and it is, that the readier escape of moisture, from the greater depth, is not made good by an increased capillary action; and that in a season like the past, unusually dry, the crop consequently suffers more. With a more tenacious subsoil, this would not be.

Indeed, I am some doubtful of the expediency at all of the subsoil plow, for *this* character of soil; but more from the results of this experiment than any actual knowledge on the subject; and I shall be greatly obliged to you, in common I presume with many others, for any *reliable* information that will elucidate this point. P. *Waterville, N. Y., November* 10, 1849.

The above results are different from any which have before come to our knowledge, in relation to subsoil plowing. We shall not attempt to explain them; but would suggest that the crops, on the subsoiled and unsubsoiled portions, be carefully noticed the coming and succeeding seasons. Eds.

Mayweed—Corn Chamomile.

Eds. Cultivator—Among the many noxious weeds that have been introduced into our country, there is scarcely one that is more to be dreaded by the farmer than the *Anthemis arvensis*, commonly called corn chamomile, or wild chamomile. On account of its close resemblance to the *Maruta cotula*, or mayweed, the two plants are confounded, and supposed to be the same by many. The mayweed was called *Anthemis cotula* by Linnæus and others; but De Candolle and, after him, most of our best botanists, have placed it in a different genus. The wild chamomile is easily distinguished from the mayweed by the larger heads of its flowers, and from wanting the strong, unpleasant smell peculiar to the mayweed, and by its botanical characters. The Anthemis arvensis is a native of Europe, Asia Minor, and is frequent in Egypt. As yet, it is sparingly naturalized in the United States,—being found in parts of New-England, New-York and Pennsylvania. In western New-York we have seen whole fields of wheat nearly choked out by this vile weed. It grows very thick, and from one to two feet high, with the branches intertwined, so that it is very difficult to gather what little wheat is left standing.

The Anthemis arvensis is an annual, as is also the mayweed. One root sends forth a great many branches which have a great many flowers, and then a great many seeds. Hence, it increases very rapidly; and having once obtained possession of a field, it is very difficult to be eradicated. Many of the seeds come up in the fall, and produce flowers and seeds the next season, while, perhaps, other seeds will not germinate until spring; and if the ground be plowed so as to bury them deep, others may remain without germinating for years, until a subsequent plowing brings them near the surface, and the light and heat of the sun causes them also to germinate.

To destroy the seeds, some farmers thresh their grain with machines in the field, and burn the straw immediately. But after the top of the Anthemis is cut off at the time the grain is harvested, the root sends forth new branches, which flower and bear seeds until the old plant is destroyed by severe cold weather, at the approach of winter.

During a recent visit to Cayuga county, where several farms are infested with the Anthemis arvensis, we were told by an intelligent farmer, who had labored hard to destroy it, that he considered it more difficult to be eradicated than the Canada thistle. The Maruta cotula, or mayweed, is much more widely diffused than the Anthemis arvensis, abounding along road sides in large portions of the northern states, as far west as Missouri. It abounds in the fields and roadsides of Europe, Persia, and the adjacent countries, and in Brazil. It is said by Linnæus to be a very grateful plant to toads, to drive away fleas, and to annoy bees. It is a troublesome weed; yet we believe it does not often spread over fields to the great injury of crops, like the Anthemis arvensis. S. B. Buckley. *West Dresden, Yates county, N. Y., November* 12, 1849.

Saxon Sheep.

Wm. H. Ladd, of Richmond, Jefferson county, Ohio, makes the following proposition:—"I propose to meet any number, not less than 20 breeders of Saxon Sheep, at any suitable time and eligible place in the United States, and exhibit each one Saxon Ram, as competitors for the following premiums: The amount necessary for obtaining said premiums to be raised in equal sums by the competitors, in the same way as it is done by the members of the different Agricultural Societies.

"To the best, a silver cup or pitcher, worth $30, other silver ware worth $30, and $40 in money.

2d best, silver ware,	$40 and $40
3d,	40 and 30
4th,	30 and 30
5th,	25 and 25
6th,	20 and 20
7th,	15 and 15
8th,	15 and 10
9th,	14 and 7
10th,	10 and 8."

It is suggested that the exhibition be held at Cincinnati, in 1850, at the same time of the Ohio State Fair, provided that fair does not occur before the middle of October, as at an earlier period the wool would not be grown to a sufficient length to be fairly judged of. An arrangement should be made to have all the sheep exhibited, shorn on the same day. The competition is to be open to all the States of the Union. Those persons intending to compete are requested to notify T. C. Peters, editor of *The Wool-Grower*, Buffalo, or M. B. Bateham, editor of the *Ohio Cultivator*, Columbus, Ohio, before the first of March next.

We hope the proposition will succeed; such an exhibition would be of great advantage to the growers of fine wool.

Castor Oil Bean.

Eds. Cultivator—As a preliminary to the answer of your correspondent, who requests some one to inform him of the manner of raising the *Palma Christi*, or castor oil bean, and obtaining the oil therefrom, permit me to premise, that if he resides in this state, or any of the New-England states, he will find the raising of the castor oil bean an unprofitable business; for I am satisfied from experience, as well as from other sources of information, that the business cannot be profitably carried on in the United States, further north than the 39th or 40th parallel of north latitude.

In the summer of 1822, I raised, as an experiment, three or four bushels of the beans, and sold the oil at $4 per gallon. I was satisfied the business might be made profitable, and the following year I planted and raised 13 acres on choice rich land. I manufactured the beans into oil, which had now fallen in price to $1.37½ per gallon. I calculated the probable amount of corn that could have been grown on the same land, and found I would have saved 100 per cent. by substituting the corn for the beans.

The plant in question appears to be indigenous to both the East and West Indies,—consequently does not do so well in northern as in southern latitudes. In this state, from one-third to one-half the crop never comes to maturity. This fact will be readily understood by any one who has ever noticed its growth in our gardens. The plant, when two or three feet high, sends off a shoot from ten to twelve inches in length, thickly studded with the seed-vessels; and when this crop has arrived nearly to maturity, another one above it will be scarcely out of the blossom; and thus it progresses, till nipped by the frosts of autumn. Out of eight to ten of these little crops, which rise in succession one above the other, not more than three or four of them usually ripen in this climate; whereas, in the southern states, the climate is favorable to its complete maturity.

The land should be prepared the same as for Indian corn; planted and hoed in the same manner, with the same number of seeds in a hill. When a part of the capsules on the lower stems show signs of maturity, by a part of them turning brown, you may pass through the field with a basket and knife, and gather them,—leaving the remainder until the second crop ripens, which will be from one to two weeks. Thus you will pass over the field as many times as the succession of crops will demand. If the harvesting is neglected until all the capsules on the stem are ripe, your crop will be lost,—the capsules bursting spontaneously, throwing the bean from five to twenty feet. In this manner they are all shelled out, after being harvested, with no other manual labor than to protect them. To do this, lay a platform with boards, say 12 feet by 24 or 36, as occasion may require, with sides from 2 to 3 feet in height. Let the floor descend a little to the south; in this way the beans have a fairer chance to dry, and the water to run off, in case of their getting wet, which should be prevented, if possible, by having a very light roof, which may be moved off or on at pleasure with a windlass. Two or three days of bright sun will shed what will cover the floor a foot deep, if kept drying by turning them once or twice a day. In extracting the oil, I used the press of the common linseed oil mill. I pressed one bushel at a time. They were first warmed to a little over blood heat, to give the oil sufficient fluidity, without any grinding, and subjected to the full power of the press. The first run gave one gallon of what is commonly called "*cold pressed oil.*" The cake was then crushed under the grinder, and one to two quarts of water added while grinding or mashing. It was then brought to a steaming heat, and again pressed, when I usually obtained another gallon of oil of a somewhat inferior quality, denominated "*hot pressed oil.*" A process is now to be gone through with, equally as necessary, and perhaps more difficult, than any of the former. The oil must be clarified, or it will soon become rancid and unfit for use as a medicine. Suppose you have a kettle, holding ten gallons; into this turn five gallons of oil and one gallon of cold water; hang it on a crane over a slow but steady fire, stirring it occasionally till it boils, which may be within one hour. A thick scum will arise, resembling that which occurs in scalding beef brine, which must be skimmed off, and the skimmings saved. Let the oil remain over the fire from ten to fifteen minutes, after the scum has all disappeared, but not allow it to boil, and then strain through flannel, and the process is done. Take the skimmings that remain and subject them, without any additional water, to the same boiling process as the former, and the same result will follow. It may hardly be necessary to caution the operator to remove the oil from the fire, if it should show signs of boiling over. S. SPENCER. *Westfield, Chautauque co., November* 10, 1849.

Gathering Clover Seed.

I have used a wooden machine, made like a cranberry-rake, on a large scale, to gather my clover-seed this season, with good effect; but it has occurred to me that the enterprising farmers of the East must have a more complete machine, the teeth probably made of iron, and my object is to get a description of a more perfect contrivance, that I can get one made. The difficulty with my wooden machine is, that it clogs and causes much delay.

Again, what is the best machine for cleaning clover seed, and where and on what terms can we most conveniently get it? C. W. CATHCART. *New Durham, Laporte Co., Ind.*, 1849.

We trust some one will furnish the information called for above. EDS.

Culture of Turneps.

We believe the farmers of the Northern and Eastern States, may make the culture of turneps profitable, as an auxiliary crop—especially on the lighter kinds of soil. The roots tend greatly to the improvement of soils of this description, particularly when fed off by sheep. The soil becomes rich, and at the same time, acquires the proper degree of compactness, which fits it for the production of wheat and the grasses. In England, some of the best wheat crops are raised in sandy districts, where formerly, this grain was not grown at all. We have seen some instances in our own country, where the effects of turnep culture have been quite as remarkable. We might cite, for example, the farm of Mr. MCINTYRE, on the sandy plain west of Albany, a tract which, till lately was regarded as of trifling value; but which has, chiefly by means of turneps and sheep, been brought to a state of productiveness that will compare favorably with the first class of soils.

It is true, that in our climate, we cannot feed turneps on the land with the advantage that is derived in the milder atmosphere of England; but it may be profitably done even here, for at least two months in the year, or generally through October and November. This is a season of the year in which grass is commonly short, and the turneps will carry out, well, cattle or sheep designed to be slaughtered at the close of the season, or they will give them an excellent start for stall-feeding in winter.

At the late meeting of the Norfolk County, Mass., Agricultural Society, Mr. WEBSTER, in his speech at the dinner-table, alluded to this subject, and spoke of the success which had attended his trials in turnep-culture at Marshfield. He said:

"There is nothing that I know of in my mode of culture of the thin and light lands which I possess, different from the general method of cultivation in the Commonwealth except this; that I have been persuaded, by reading, and by observation abroad, that there is one species of cultivation almost unknown in the state of Massachusets, which is still very well suited for the counties of Norfolk, Plymouth, Bristol, and other places where there is a great proportion of light land; I mean the root cultivation—that of turneps and beets. And from all flights of oratory upon Agriculture, I come down to simple beets and turneps, and to give you one word upon that subject. The time is coming when the light lands must yield themselves to this culture."

He states that on his farm, naturally very light and poor, he raises turneps that he is "willing to show to and compare with any farmer in Yorkshire."

It is, however, a *modified* turnep-husbandry that we designed particularly to advocate at the present time; we would not adopt it to the exclusion of Indian corn, but as an auxiliary to this and other grain crops. We recommend it especially as an *after* crop, not interfering with the regular course of cropping. For instance, it may be sown after rye or hay, have been taken from the ground. There are several varieties which grow so rapidly that they will give a good yield if sown as late as the 20th of July to the 10th of August, and sometimes when sown later.

On the farm of WM. O. BARTLETT, Esq., Worcester, Mass., we lately saw an excellent crop produced on a rye stubble. The soil was gravelly, on a porous, granitic subsoil, and three years ago was regarded as completely worn-out. It has been heavily manured with a compost of peat saturated with urine and mixed with barn-yard manure. The stubble was plowed immediately after the rye was harvested, the ground rolled, and the turnep seed, (of the English round purple-top variety) sown from the 20th to the 25th of August, with Emery's machine, in rows two feet apart. The crop was never hand-hoed, and only a portion of it thinned—the only cultivation being done with the cultivator and the subsoil plow. The crop was very clean from weeds, though there was some rye among it, which however, did not appear to have much checked the growth of the turneps. We should think the crop on the whole field, seven acres, would average 500 bushels per acre, and there were portions which would give double that yield.

Mr. B. showed us another lot of turneps, which were produced at even less expense than the one above-mentioned. It grew on a drained bog. The surface was covered with small shrubs and coarse herbage, the roots of which formed a close net-work two or three inches deep. While the ground was dry, the surface was set on fire, and this fibrous covering was reduced to ashes —the fire going to just about the depth that the roots were closely matted. The turnep-seed was sown broadcast in this bed of turf-ashes; a slight shower buried it, and gave sufficient moisture to bring up the turneps. The crop was never *touched* till harvested. There was not a weed in it—the whole surface was turneps as thick as they could stand, and many of the bulbs were so crowded out that nothing but the tap-root, not larger than a goose-quill, connected them with the soil.

Now what crop could be raised that would make as much beef, or mutton, or manure, with so little expense as turneps, produced in either of the ways here mentioned.

Imported Cattle.—Bates' Stock.

The August number of the "Cultivator," for 1849, contains an article on the "recent importation of short horns," which does not entirely coincide with my views. The writer, referring to the bull, 3d Duke of Cambridge, which he had the honor of importing, says: "Breeders, desiring the blood of Mr. Bates, can no where else in this country, procure it *with such high characteristics of style, quality, symmetry, and substance.*"

Allow me here, before discussing this paragraph, to remark, that *honorable competition* in breeding domestic animals, cannot fail to be a fruitful source of improvement, and should be countenanced and encouraged by every individual who desires to see the stock of our country raised to that high standard which its importance so justly merits and demands. The individual, however, who enters upon this enterprise with a desire and a determination to excell, will soon find himself surrounded with perplexities and prejudicies, which he little anticipated; and, however desirous he may be to avoid controversy, circumstances may occur, where justice, both to himself and the public, demands that he should no longer remain silent. Experience will also sooner or later prove, that there is neither honor or profit to be acquired, by resorting to the frail support of either directly, or indirectly, assailing, or endeavouring to disparage the stock of others, by the assumption of high sounding pretensions, which cannot bear the test of truth and scrutiny.

But to the point. We presume no one will deny, that any one animal from any herd, to possess the power of imparting to his produce, "*higher characteristics of style, quality, symmetry, and substance,*" than any other animal from the same herd, *must* possess more of the *choicest blood* of that particular herd. To doubt this, is at once questioning the efficacy of *blood animals*. The most natural inquiry, therefore, which would arise from a perusal of the paragraph quoted, would be—"What is the *particular strain of blood*, in the late Mr. Bates' herd, which is superior to *all other*, and which gave him such a deservedly wide spread fame and reputation as a breeder?" Now let this simple fact be clearly defined, and if 3d Duke of Cambridge possesses more of *such blood*, than any other animal in this country, then he may be fairly entitled to his claimed position of superiority. This is a point of the greatest importance to breeders of Short-horns in this country, and *particularly* so, to "all who wish to procure the blood of the late Mr. Bates' herd."

In order, therefore, to prove to the public conclusively, and to place the matter beyond the possibility of a doubt, that the *choicest blood* of Mr. Bates' herd consisted in his *pure, unalloyed Duchess tribe*, we quote his own opinion, from a communication addressed to the publishers of the print of his bull, Duke of Northumberland. After giving the pedigree of this bull, Mr. Bates says:—

> "The *whole* of this family" *(Duchess family, S.P.C.)* "of Short-horns are *alone* in my possession, having purchased my original cow of this tribe of cattle of the late Charles Colling, Esq., of Ketton, near Darlington, 35 years ago. They had been in the possession of Mr. C. Colling, 20 years, who purchased his *original cow from Stanwix*, of the agent of the late Duke of Northumberland, and called *her Duchess*, (which is the reason I have named the bull after that family,) as they are justly entitled to be held in commemoration for having possessed a *tribe* of cattle which Mr. C. Colling repeatedly assured me *was the best he ever had or ever saw*, and that he was never able to improve upon *her*, although put to his *best bulls*. And I have undoubted information from the best authority for saying that *this tribe* of Short-horns, were in the possession of the ancestors of the present duke, for *two centuries*; and that Sir Hugh Smythson, the grandfather of the present duke, kept up the celebrity of this tribe of cattle by paying the utmost attention to their breeding; and that he used regularly to weigh his cattle and the food they ate, to ascertain *the improvement made in proportion to the food consumed*; a system I adopted nearly fifty years ago, not knowing that it had been previously done; and from a minute and close attention to this subject, I obtained that knowledge of cattle, which enabled me to judge of their *real merits by their external characters*—and which I have never found to fail in my experience for above forty years as a breeder. From that knowledge, thus acquired, I selected *this tribe* of Short-horns as *superior to all other cattle*, not only as small consumers of food, but as great growers and quick graziers, with the finest quality of beef, and also giving *a great quantity of very rich milk*. The cow I bought of Mr. C. Colling, in 1804, calved at Halton Castle, in Northumberland, June 7th, 1807; she was kept on grass only, in a pasture with nineteen other cows, and made in butter and milk for some months, above *two guineas* per week, or *forty-two shillings* in English money."

We have in this entract, the opinion of Mr. Bates himself, in regard to the Duchess blood, as being *superior to all other*—also confirmed by the opinion of Mr. Charles Colling, who repeatedly said, *it was the best he ever had or ever saw.*

Now, whether this 3d Duke of Cambridge possesses more of *such blood*, or, if you please, has the blood of Mr. Bates' herd, with "higher characteristics of style, quality, symmetry and substance," than any other bull in this country, a brief reference to *pedigrees* will show.

> "*Pedigree of the 3d Duke of Cambridge*, (5942.) Roan, calved September 14th, 1841, bred by Thomas Bates, property, &c. Got by Duke of Northumberland (1940); dam Waterloo II., by Belvidere (1706); grand dam by Waterloo, (2816); g. g. dam by Waterloo, (2816)." [Coates' Herd Book, 4 vol., page 614.]

By this pedigree it will be seen that 3d Duke of Cambridge possesses *only one quarter* of Duchess blood—his *sire*, Duke of Northumberland, being a *half* Duchess bull, and his *dam* Waterloo II, *having no Duchess blood in her*.

Among the individuals who have imported stock to this country from the late Mr. Bates' herd, we believe the importations of Mr. GEORGE VAIL, of Troy, N. Y., have been the most extensive. In 1839 or 40, this gentleman imported direct from Mr. Bates, a bull calf, Duke of Wellington, and a heifer, Duchess. For the purpose of *comparison*, we insert the pedigree of Duke of Wellington, 55, [3654] as given by Mr. Bates:

> "Roan, bred by Mr. Bates, &c. Calved Oct. 24th, 1839; got by Short-tail, (2621); dam Oxford, (having obtained the first prize for the best Short-horned cow, open to all England, in July, 1839, given by the Royal English Agricultural Society,) by Duke of Cleaveland, (1937); g. d. Matchem cow, by Matchem, (2281); g. g. dam by Young Wynyard, (2859) sometimes called Young Wellington."

By this pedigree it will be seen that Wellington's sire, Short-tail, was also a *half* Duchess bull. So far then his *equality* with Cambridge, as to Duchess blood, is established. But if we examine a little farther into this pedigree, we shall find that Wellington's dam, Oxford Cow, was *also* got by a *half* Duchess bull, Duke of Cleveland. Consequently, the *produce* of Wellington, from a cow *without* Duchess blood, would possess nearly as much Duchess blood, as Cambridge himself.

For the illustration, and to show the public that there are other animals in this country that possess *more* Duchess blood than Cambridge, we insert the pedigree, in part, of Mr. Vails' Duchess:

"White—bred by Mr. Bates, &c. Got by Duke of Northumberland [1940], dam Non-such the 2d, by Belvedere [1706], g. dam Non-such by Magnet, [2240.]" &c. &c.

Mr. Vail's prize bull, Meteor, 104, was out of this heifer, and his sire is Duke of Wellington. He has therefore *three crosses* of the Duchess blood, and so also have the bulls Mr. Vail has sold to Col. Sherwood, of Auburn, N. Y., (and we can well bear testimony to the worth of this bull, Symmetry, as we have a cow of his get, and a very superior animal she is,) Col. Hampton, of S. C., Messrs. Ferguson and Wetenhall, of C. W., and Thomas Hillhhouse, of of Watervleit, N. Y. We might continue this account, as Mr. Vail has three more imported cows, sent him by Mr. Bates, all of which possess strains of the Duchess blood, but we deem it unnecessary.

We learn by the agricultural papers, that that *whole* of the late Mr. Bates' herd are to be sold the coming spring or summer; and consequently the *Duchess tribe* which Mr. Bates has always retained *exclusively in his possession*, will be dispersed in the hands of many. From the enterprise which has thus far characterised Mr. Vail, as a breeder, we sincerely hope and expect he will not let this opportunity pass, without the introduction of one or more animals of the *full* Duchess blood, into his herd. He has already done much to bring the *Bates Stock* into deserved reputation in this country, and the benefit which its introduction has conferred upon other Durhams, which have received only a single cross of this strain of blood, is immense. We hope he will now introduce the Duchess blood *without alloy;* and we confidently expect the day would not be far distant, when the price of the American Short-horns, will compare favorably with the high sales of this stock in England. S. P. CHAPMAN. *Clockville, Mad. Co., N. Y., Dec.* 1849.

Hamilton College.

At a recent meeting of the trustees of this institution, OREN ROOT, A. M., of Seneca Falls, was elected to succeed Professor Catlin, deceased, in the depart- of mathematics and astronomy. Mineralogy and geology were added to this department, and measures were taken to secure the removal to Clinton, of Professor ROOT's Cabinet, which is one of the largest and best mineralogical collections in the country. It embraces about 7000 specimens, gathered from every quarter of the world. Its connection with Hamilton college will render its facilities for instruction in the natural sciences, equal to those of any college in the country.

To those who are interested in the march of improvement, it cannot but be gratifying to notice how rapidly our higher institutions are conforming to the practical spirit of the age. Hamilton college certainly deserves well of the community, for its readiness to comply with the demand for those kinds of learning which are suited to the real wants of life. Time was, when Latin and Greek were the only languages taught; now German and French are added. Time was, when most of the senior year was devoted to *disciplinary* studies, now it is *wholly* given up to *practical* studies. Legal and political science is studied more thoroughly and extensively than at other similar institutions. Full courses of lectures are given on civil engineering, on agricultural chemistry, and on anatomy and physiology. Great attention is also paid to elocution and kindred exercises. Professor Root will enter upon his new duties about the first of January. With the increased instruction which he will give in physical science, it is believed that the course of studies at Hamilton college will be just what the age demands. ALUMNUS.

The Boston Poultry Show.

This novel exhibition came off on the 15th and 16th of November last. The display of the different species and breeds of poultry, was extensive, and evidently regarded with much interest by the public. The Committee of Supervision, in their report, state that—

"The number of specimens of the different feathered races, presented on this occasion, numbered 1423, and the number of exhibitors recorded was 219. The number of people admitted to the show, was not less than ten thousand. The sum of three hundred and sixty-four dollars was received at the gate, (the fee being 10 cents) notwithstanding the admission of ladies and children gratis."

The object of this meeting was to bring together specimens of the different varieties of poultry, that their peculiar traits might be seen, and their relative merits judged of by comparison. No prizes were offered—every observer being at liberty to award his own commendations as appeared to him proper.

We are happy to learn that annual exhibitions of this kind, are contemplated, under the auspices of a society, to be formed for the improvement of the different kinds of poultry, and the "increase and diffusion of knowledge" on this subject. Under such an organization, with the intelligence, taste, and capital, which may be brought to bear on the object, we cannot doubt that highly interesting and useful results would be obtained. The various breeds may be fairly tried, under circumstances calculated to fully develope their qualities; rare species and breeds, both in a domestic and wild state, from various quarters of the world, may be introduced; experiments in breeding instituted and carried on under competent directors, and every important fact carefully noted. In these ways, many doubtful questions would be settled, and much light elicited on physiological points, which have hitherto been involved in obscurity.

In regard to the present show, it may be remarked that the genus *Gallus* was largely represented; and in this class, the large Asiatic or Malay tribe of fowls, took the lead. They were offered under various names, as Chinese, Cochin Chinese, Shanghae, Java, Buck's county, Jersey Blues, &c. Their general characteristics presented but trifling variations, and their numerous titles afforded another illustration of the adage that there are sometimes "distinctions without differences." These fowls are very large, but are often thinly feathered, loose jointed, large boned, and coarse fleshed. Their defects are sometimes remedied by skillful breeding, and good stock has been thus produced. They have also been useful in many cases in crossing other varieties. A cock, ten months old, exhibited by C. B. Marsh, West-Roxbury, Mass., was said to weigh twelve pounds.

But of all the fowls exhibited, none, in our opinion, showed stronger marks of a true breed, than the Spanish, called in some instances Italian. They are uniformly of a glossy-black color, of good size, and handsome form—corresponding to the cut and description given of the breed in our last volume, page 84. A lot of twelve, so similar in every respect, that it was difficult to distinguish one from another, of the same sex, was shown by Daniel Buxton, Danvers, Mass.

From several exhibitors, there were fine specimens of Dorkings, Bolton Greys or Creoles, Games, Bantams, and Top-knots, of the Black, White, Golden and Silver Spangled varieties. In addition to these, there were many fowls produced by various mixtures and crosses, some of which were singular, and others apparently valuable.

Turkeys were not numerous. Some wild ones, were shown by John Giles, of Providence, R. I. There were specimens of pea-fowls and Guinea-fowls—some of the latter entirely white. Of pheasants, there was only one pair; they were the English pheasant, and were shown by Col. Jaques, of the Ten-hills Farm. A pair of "French Partridges," (a species of grouse,) was shown by B. F. Dow, East Boston.

There were some very fine geese. Specimens of the wild, or Canadian, were shown by Hon. Dan. Webster; the Bremen by Col. Jaques; the large Chinese, (sometimes called African, Poland, Mountain geese, &c.,) the small Chinese, and the Barnacle, all shown by John Giles, Providence, R. I. The latter, were the first of the species we have ever seen domesticated. They appeared very tame, and attracted much attention. A pair of beautiful swans was also shown by Mr. Giles. There were but few ducks. Specimens of the celebrated Aylesbury breed, were shown by Mr. Giles. They are very large, and perfectly white. They are greatly esteemed by the English epicures, on account of the whiteness and fine flavor of their flesh. A specimen of the beautiful wood, or summer duck, was shown by Edward S. Rand.

At the close of the exhibition, an auction was held, for the sale of poultry, at which everything really good, found a ready purchaser at a high price. Fowls were sold at from $10 to $18 per pair, and some private offers, of even a higher figure, were refused.

The Committee of Supervision, in their report of this exhibition, have made some valuable remarks in relation to the importance of the poultry business, and have furnished some statistical facts which are deserving attention. We make the following extracts:

The rearing of poultry, as will be shown, is certanly not the least important article of stock to the farmer. The article is readily converted into money, and is, probably, quite as readily prepared for market as any other article of stock produced on the farm.

The amount of sales of poultry at the Quincy Market, Boston, for the year 1848, was six hundred and seventy-four thousand four hundred and twenty-three dollars. The average sales of one dealer alone amounted to twelve hundred dollars per week for the whole year. The amount of sales for the whole city of Boston, for the same year, (so far as obtained,) was over one million of dollars.

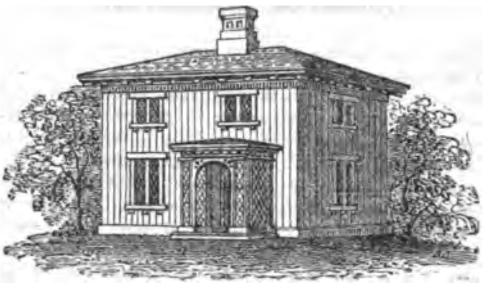
Our convenience to the London market, by the aid of steamers weekly, enables the farmer, through the egg merchant, to make sale of his surplus eggs in that quarter.

The amount of sales of eggs, in and around the Quincy Market, for 1848, was one million one hundred and twenty-nine thousand seven hundred and thirty-five dozen, which, at eighteen cents per dozen, (the lowest price paid 11¼ cents, and the highest 30 cents per dozen, as proved by the average purchases of one of the largest dealer's books,) makes the amount paid for eggs, to be two hundred and three thousand three hundred and fifty-two dollars and thirty cents. And from information already obtained from other egg merchants, in the same city, the whole amount of sales will not fall much, if any, short of a million of dollars, for 1848.

The average consumption of eggs, at three of the hotels, was more than two hundred dozen each day, for the year 1848.

The value of eggs brought from the Penobscot, and Kennebec rivers, during the running season of the steam boats, plying between Boston and those two rivers, was more than three hundred and fifty thousand dollars, for that season.

One dealer in the egg trade at Philadelphia, sends to the N. Y. market, daily, nearly one hundred barrels of eggs. It is estimated from satisfactory returns that the city of New-York, alone, expends nearly a million and a half of dollars, in the purchase of eggs.



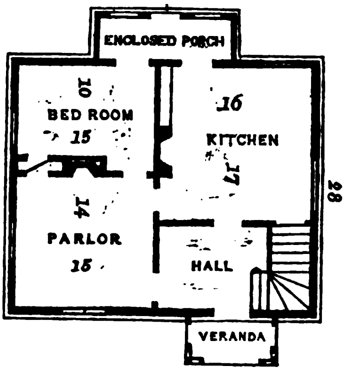
Suburban Cottage.

The accompanying design is by A. J. Downing, Esq., by whom it is thus described:

It is of very moderate size, intended to come within the means of those who have only a few hundred dollars to expend in a dwelling, who can afford little ornament, and who still desire to get something comfortable, and agreeable to the eye.

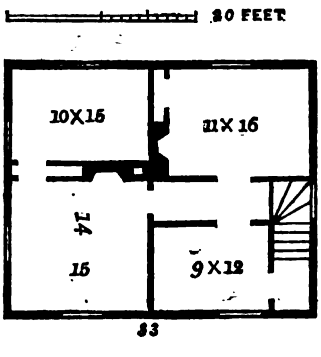
There is no effort at the ornamental in this design. It is simply getting the most convenient arrangement of the interior, in the most *compact* form, viz., that of a square. The little veranda, formed of lattice work, and intended for vines, is the only decided approach to the ornamental, though the mere projection of the rafters, gives the roof something better than the usual common place character.

This design is intended to be constructed of wood, the weather boarding put on in the *vertical* manner, described in our first volume, and familiar to most of our readers.



First Floor.

The plan of the first floor shows a hall, parlor and bed-room,—all, indeed, that a family wishing this kind of cottage, need on the first floor, so snugly arranged that not a step need be lost in the working operations of the family. The entry or hall is larger than is usual in houses of this size; and the enclosed porch, or back entry, serves to shelter the back door in winter, and might, if preferred, be taken away altogether in summer.



Chamber Floor.

The second sto-plan shows an upper entry and four good bed rooms. The chimney flues are all drawn into one stack in the attic, and the roof is covered with shingles. The first story is ten feet, the second nine feet high.

Farming vs. Manufacturing.

Eds. Cultivator—As suggested by "Enquirer" in the November number of your paper, I admit that agriculture may be made the most happy pursuit of man; but whoever may engage in the pursuit, in the belief that it is now the most profitable, is destined to certain disappointment. That the profits of capital and labor in agriculture, have been greatly misunderstood, is too true. That they have been the subject of misrepresentation by superficial observers, who have based their estimates upon single acres, or single fields, is also too true. That this misunderstanding has been productive of much mischief, is sustained by too many examples to be for a moment doubted.

How many men under a missapprehension of the profits of agriculture, embark in that business, and through subsequent disappointment, abandon it in disgust, to engage in other pursuits? Influenced by misrepresentations, how many men are induced to abandon other occupations, to engage in that of agriculture, and when taught by experience of their error, have returned to their former employments, having sacrificed by their changes of business, the fruits of former industry and toil? Ignorant of the true principles upon which agriculture can alone be made profitable, how many farmers drag out their years of dull monotony, and leave to their heirs a worn out farm, encumbered with debts of years accumulation? To avoid such cases, it is important that the actual and relative profits of agriculture should be distinctly understood. Much of that required knowledge may be found in Professor Tucker's Progress of the United States, published in 1843, by Little and Brown of Boston.

In the 17th and 20th chapters of that work, the number of labourers employed, and the amount of income produced, is given in each of the great industrial pursuits of our country. By his tables the annual income of each agricultural labourer in the state of Maine, was $156—in Massachusetts, $183—in Vermont, $244—in New York, $237—in Virginia, $186—in South Carolina, $109—in Ohio, $138—in Tennessee, $139—in Mississippi, $190—in Louisiana, $288. By his tables it is also shown that the annual income of each manufacturing laborer in Massachusetts, was $750, and that such income, after deducting the raw material, was $510. The estimates of Professor Tucker, were taken from the census of 1840, and are eminently sustained by that of Massachusetts, taken in 1845. Take the cotton interest for an example. The capital stock invested in the state, in cotton manufacturing, was $17,739,000. The value of the goods manufactured, was $12,193,449. The value of the raw material, was $3,900,000. There were 6,300 men, and 14,400 women employed as laborers, at an expense of about $3,300,000, giving an income fully sustaining the estimates of Professor Tucker, and showing a net profit exceeding by at least four-fold,* the most successful farming operations, not excepting the premium farm of the state.

It will be seen by these tables that the value of agricultural labor varies very materially in the different states of the Union. And it should be borne in mind that climate, soil, and location have done much in producing that variation. It should also be borne in mind that good culture has had much to do in producing that result; for instance, location giving superior market facilities, has given to labour a greater income upon the rugged soil of Massachusetts, than has been realized from that expended upon the virgin soil of Ohio. Location and climate allowing the growth of the sugar cane, (which is the most profitable of agricultural productions) has given to labor, a greater income in Louisiana, than has been produced in any other state in the Union. But it must have been good culture that has given to labor a greater income upon the inferior soil of Vermont, than that produced upon the superior soil of New York. And it must also be owing very much to good culture, that should have given to labour in Seneca county, so much greater income than has been produced in the residue of the state, or in any other state in the Union. If, then, good culture is so material in producing such different results, how important it is, that our farmers acquire a knowledge, and adopt the practice of giving it a universal application. If location is capable of exerting so important an influence, how important it is that such effect should be modified by increased facilities of communication. If market facilities produce so material effect upon the profits of labor, how important it is, that our agricultural productions should enjoy the unrestricted market of the world. A Farmer. *Hillsdale, Dec. 5th,* 1849.

Fowls in Yards.

Eds. Cultivator—You ask some questions relating to my *aviary*, answers to which are cheerfully submitted.

My usual number of fowls is one hundred. They are confined in an enclosure containing about half an acre, inclusive of ground occupied by the buildings, the dimensions of which are as follows: Forty-eight feet length and twelve breadth, with length of posts sufficient for the admission of twenty-four lighted windows, of which there are eight in front, sliding horizontally upon the sill. This building contains but one apartment. In addition, and communicating with it, is an upright post, at one end twelve by sixteen feet with nine feet posts, containing an underground room for fowls to collect in cold weather, and is accessible to them at all times. Above, on the ground floor, is a depository for sand, gravel, mortar from old walls, &c. &c., for daily use of fowls. The attic designed for a roosting apartment, which on account of the sharpness of the roofs, is roomy, *as all sleeping places should be,* at least for the health of fowls. A window in gable ends, is for lights and ventilation. The roofs to the main part, are also sharp, to turn the sun's rays in summer, and as a matter of taste and durability. The yearly average to each hen is not far from one hundred eggs. Young hens, say of the first or second year, are found more prolific than older ones.

Cocks have always been permitted to run with our hens, and consequently I have not the means of determining the particular results, from a separation, as regards the production of eggs.

As a general rule no strange fowls are admitted to the yard. We raise a yearly supply for home use.

I consider the Poland crested fowls to be a hardy variety, and perhaps the best for northern latitudes;

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* It will be seen that our correspondent here claims, that labor employed in the manufacture of cotton, produces "a nett profit, exceeding, by at least four-fold, the most successful farming operations." It appears to us that there must be some mistake in the data by which he arrives at such a conclusion. Let us see what result we produce from his figures. He puts down the value of cotton goods manufactured in Massachusetts, at $12,193,449
From this there is to be deducted:
cost of raw material,............ $3,900,000
25 per cent on the capital for wear and tear of machinery, and expenses other than labor.................. $4,434,750—$8,334,750

This leaves $3,858,699
to be divided among 20,700 laborers, which gives to each $186.42, within a fraction, which is about the average allowed by our correspondent to farm laborers. Eds.

when young they afford more eggs in succession than common varieties.

If I should find male fowls superior to my own, I would dispose of mine and introduce the strangers, after subjecting them to *quarantine* for a reasonable time. I have once done this with good effect.

I have had no experience in the treatment of diseased fowls, but if my fowls were diseased, I would give them *passports* with leave of absence, to go where fancy ruled. If in summer, I should look for returns from the fields, as autumn approached, with an *increase of numbers* perhaps; and with the rose of health *upon their animated countenances.* J. R. S.

Verona, Nov. 5, 1849.

Good and Bad Management.

From the excellent practical address of R. G. Pardee, before the Wayne Co. (N. Y.) Agricultural Society, we extract the following:—

Be not afraid of book farming. If the best way of farming can be told, it can be written; and when written, you can learn and understand it as well as from the lips of a co-laborer. It is one of the shallowest prejudicies which ever crept into the mind of man, that a fact loses its power and value because printed in a book.

I wish I could place the Genesee Farmer and the Cultivator in the hands of every farmer in our country, and I would be gladly responsible for the injury. Just discrimination, is of course necessary in reading any human writings; but where the editor of an agricultural journal admits one error into his paper, a thousand are propagated from the lips of neighbor to neighbor, among agriculturists.

Again, fence and water your farm, so as to save as much valuable time as possible. Much more than many farmers are aware of, is gained or lost in this way. One of your number has directed my attention to one of our best farmers who went on to his farm some years ago, and found it without plot, without fences of any value, and without water. In a few short years, he had so planned and fenced his farm, and by the help of a very small spring he brought to light, and a few logs, he had so watered it, that he could pasture his flocks and herds on any part of his large farm, and give them easy and constant access to water, without stepping but a few rods from his dwelling. Of course he saved a vast amount of time, to improve his land; and the man who can devise such liberal things, soon raised his farm to the very highest state of cultivation, as well as order, and grew rich. His neighbors who preceeded him many years, and selected better soil, with streams of water running through their farms, have never been able, even to this day, to devise any plan by which their flocks can be watered or pastured without using up one or two boys, if not one or two men, by their long pilgrimages. Of course their life is one continued scene of toil and drudgery; for it is all an up-hill business.

* * * * * * * * * *

I will detain you only to name two or three things, that will be likely to endanger or prevent your complete success. First, *your sloth.* Man is said to be naturally indolent; but I need not stop here to prove to you, that this obstacle *must* be removed, or all your efforts will prove failures, and your inheritance in a short time resemble that dismal, but graphic sketch, drawn by the pen of the wise man, in the following language: "I went by the field of the slothful, and by the vineyard of the man void of understanding; and lo, it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down. Then I saw and considered it well; I looked upon it and received instruction: yet a little sleep, a little slumber, a little folding of the hands to sleep: so shall thy poverty come as one that travelleth; and thy want as an armed man."

The reverse of this description is vividly illustrated by Pliny, the elder, as follows: "Furius Cresinus, an emancipated Roman slave, having obtained from his very small estate much larger crops than his more wealthy neighbors from their vast domains; they became so envious that they charged him with employing enchantment to attract to his ground the product of their fields.

"Having been summoned by Spurius Albinus, and being fearful of condemnation, he introduced into the Forum, as the tribes prepared to vote, his robust and well-clad family, and his agricultural implements, his heavy mattocks, his ingeniously constructed plows, and his well-fed oxen, and then exclaimed: 'Behold! Roman citizens, my magic: but I am still unable to show you, or to bring into the market-place my studies, my *constant vigilance, my fatiguing labors.*' Scarcely had he concluded, when he was absolved by public acclamation."

Second—A greater obstable to your success may be found in your *unbelief.* Faith, says an eminent writer, "is the main-spring of human action." Washington had faith, firm faith, that his country must be free and independent, and therefore he determined to seek it, regardless of every obstacle, as long as he lived. The principle, "according to thy faith be it unto thee," is almost as infallible in nature as in grace.

You do not believe you can accomplish any good thing, and therefore you do not put forth any *good* efforts. You have no confidence in your own efforts to make things better around you, and therefore you allow your whole life to run to waste, and go down to your grave, leaving it scarcely perceptible that the world is any better for your having lived in it,—forgetting that many drops makes an ocean, and many sands the mountain, and many threads will bind the elephant Make even two spears of grass to grow where one grew before—ascertain the cause and note it down, and you may leave the embryo of a principle, that will clothe the desert with verdure, and bless the world.

American Pork in England.

Messrs. ALLEN & ANDERSON, extensive provision dealers in London, have sent to this country a circular in relation to the curing and packing of pork for the English markets. It contains useful information to persons engaged in the provision trade.

The circular states that the trade with England in this line has been generally an unprofitable one, chiefly on account of the inferior quality of the article. Of bacon, it is stated that the imports of American into London—

In 1847, were................	14,161 cwt.
In 1848, "	70,823 "
In 1849, 9 months,...........	140,096 "

A considerable portion of which was soft, oily, inferior in quality; and to this circumstance, more than to the great quantity, the serious declension in prices, and consequent heavy losses to the shippers, are attributable.

The bacon best adapted to the London market, is singed sides, weighing 56 to 64 lbs. each. The first sent out from this country last winter, is represented to have been of fair quality, and the meat of a good, firm texture; and as it was offered at much less price than the Irish, it found customers. But the subsequent arrivals were so soft, oily and inferior, that the Irish was again preferred, even at advanced rates, while the American became, and continued, a dull, dragging trade

—many of the best dealers abandoning the article altogether.

"Ice-cured singed sides, for shipments made during the summer heats, do not answer; the meat sustains in all cases an injury that lowers the price, and in some instances has done so to the extent of 50 per cent. Shipments of singed meat, by New Orleans, ought, for the same reason, to be avoided altogether, or made only in the months of December and January."

"Prime mess pork has been a losing article. Some few of the first arrivals of New-York and Baltimore brands came of prime quality, and brought remunerative prices. But almost all the Western brands have come particularly bad, defective in cure, wretched in color, and the meat soft and inferior. The chief defect in almost all American prime mess pork is the color. Instead of being the bright cherry red, characteristic of skilfully pickled meat, it is a dirty, dull unsightly brown. That this is remediable, and arises in the manufacture, is proved by some few brands coming otherwise. But unless it be obviated, the preference will continue to be given to Irish and Hambro, although inferior meat, at much higher prices."

Indian Corn in Tennessee.

Maj. John McGaughey, in his agricultural address, delivered at Greenville, says he has raised 90 bushels of corn to the acre, and he thinks 100 bushels or more, can be produced. He makes the following calculation: Take an acre of corn and lay it off three feet each way, and leave two stalks in a hill, and it gives 9,680 stalks, suppose each stalk to produce one good ear, and every hundred ears to make a bushel, it would make a fraction over 96 bushels. Again, take an acre of ground and lay it off 4 feet wide for planting in the drill, drop your corn one grain in a place, 12 inches apart, and it gives 10,890 stalks, which at the same rate would make over 108 bushels. But it would be reasonable to suppose that upon the acre laid off three feet each way with two stalks in a hill, that every three stalks, if well cultivated, would upon an average, produce 4 good ears, which would make 129 bushels.

Reclaiming Sandy Land.

Obed Brooks, Jr., of Harwich, Barnstable county, Mass., gives the officers of the Agricultural Society of that county, some interesting facts in regard to his experience in reclaiming "blowing sands." He states that much of this kind of soil, with which Cape Cod abounds, can be readily rendered "pleasant to the eye and profitable to the cultivator." He says—"by a slight dressing, and by proper cultivation, they may be made to produce a good crop of corn the first year, and by laying down to grass in the fall, they may be brought into good pasturage. Moreover, by setting upon the borders of the enclosure, the silver-leaf poplar—a tree exactly adapted to loose and sandy soils, and not liable to be eaten by cattle—they may be made to improve the appearance of any village, and give an air of thrift and beauty to the waste places of the cape."

Mr. B. bought a lot containing eleven and a half acres, in the spring of 1847, which was then regarded as completely worn out, and had already begun to blow. He gave only $80 for the whole lot, and it had previously been offered at a much less price. He fenced it with cedar posts and chestnut rails, at a cost of $70. He has used no manure in the cultivation. He plowed it deep, and on the 19th and 20th of May, 1847, planted it with corn, in hills four feet apart each way. He used the cultivator at every hoeing—which was four times—running it very deep, twice in a row both ways. At the second hoeing, pulled all except two plants in a hill. At the last hoeing, 25th August, sowed rye, oats, and grass seed, putting on to the acre twelve quarts rye, sixteen quarts oats, eight quarts herds grass or timothy, twelve quarts red top, and eight pounds clover seed. He raised from this field 156 bushels of corn of excellent quality, which sold readily at 85 cents per bushel, and 33 bushels potatoes. The crop of rye taken off the next year, measured 55 bushels. The grass seed took well and has brought the field into a fine sward and good pasturage.

He makes an exhibit of all the expenses he has laid out on the land up to the 16th of October, 1849, and credits the value of the crops he has taken off; from which it appears that the cost of the 11½ acres of land, as now fenced and improved, is $8,57.

Breeding Horses.

The report of the committee on horses, for the Chittenden County Vt. Agricultural Society, contained some good remarks. In addition to the hereditary transmission of qualities, it observed, "The progeny will inherit the united qualities of their parents. The good as well as the bad qualities will descend from generation to generation. Hence you will see the importance of a knowledge of the parentage, not only as to the sire but also as to the dam. Peculiarity of structure and constitution will also be inherited. This is an important consideration, though too much neglected, for however perfect the sire may be, every good quality may be neutralized, if not overcome by the defective structure of the dam. Let the essential points be good in both parents; but if there must be some minor defects in the one, let them be met and overcome by excellencies in those particular points, in the other parent. We would also advise you, to let your breeding mares be in the full vigor of life. Do not put them to the horse too young, and especially do not let your mares be incapacitated for work by reason of old age. If so, you may expect that the foal will have a corresponding weakness, and scarcely will a single organ possess its natural strength. Our farmers are usually too negligent in the selection of their mares. They are tempted to part with their best mares, and to breed from those which are inferior."

The committee speak of a young horse of the Morgan stock, bred by judge Bennett, as having "great compactness of structure and action of the best kind."

Extracts from Agricultural Addresses.

Influence of Agricultural Periodicals.—Agricultural reading is another subject to which I would call your attention. Papers designed chiefly for those interested in farming pursuits, engaging as they do the best intellect and most practical talent in the land, must be a store-house of interesting and useful knowledge. They are moreover, our common medium for interchanging thought and opinions, and for communicating from one to the other, our useful discoveries. Though the ignorant and penurious may spurn such means of gaining intelligence; yet, it is observable and encouraging, that among the more intelligent farmers, are always to be found the best patrons of our Agricultural prints. And where the land is in the highest state of cultivation, and the domestic arrangements are of the most agreeable character, you will discover intelligence to use and appreciate those publications which are designed to bring conveniences and improvements to their farms and dwellings. Go the country over and you will see that, in all the cases of failure in realizing a fair profit from the farm, there has not been wanting the requisite capital, the energy, the bone and muscle, so much as the desirable intelligence to give a right direction to their other powers. The maxim, "knowledge is power," is applicable in no case more than in that of farming.—*Address of* Moses Eames *before the Jefferson county Agricultural Society*.

I would say to every farmer, *take a good Agricultural Journal*, read it, study it, ponder upon it, make yourself not only familiar with its contents, but strive to understand the subjects of which it treats through other sources. You will thus be kept acquainted with agricultural improvements, and will constantly be made to feel the necessity of a more thorough understanding of your occupation. It will lead to the study of soils, and the nature of the plants which they produce; the adaptation of different manures to each, the food which the various vegetable substances require, and the best method of administering it, so as to produce health and vigor of fruit; the means to be employed that the harvest may realize your anticipations, the qualities of the different kinds of stock, the usefulness of new agricultural machines, and a variety of other subjects which require your investigation. Through it you commune with the leading spirits in your vocation. You behold what experience, unwearied patience, and the application of powerful minds, have accomplished. It will afford you instruction in all the different departments of your business, and prove a valuable guide to your progress. These benefits will not acrue from a bare cursory perusal of it. If sketched over like an ordinary newspaper, for the purpose of amusement, and then thrown aside to be forgotten, it will scarcely pay the price of subscription. It should be read with the interest excited, "with the spirit and the understanding," and with a disposition to profit by its teachings.—*Address of* James M. Banks, *before the Chenango county Agricultural Society*.

Kindred to, and of equal importance with agricultural societies, are the benefits to be derived from agricultural papers, for one or more of which no farmer should fail to subscribe. By their means improved agricultural implements—the making and application of manures—the introduction of new varieties of fruits and vegetables—the most approved breeds and principles of raising stock—the best rotation of crops—in short every species of information that is valuable to the farmer is spread out before him.

I have seen in some of your fields, improved implements of husbandry and labor-saving machines, your first idea of which was derived from the Cultivator; and the construction of which you yourselves superintended in the workshop of a neighboring mechanic. One of your number told me not long since, in his harvest field, that he had derived one hundred dollars benefit from this paper in the two years he had taken it.—*Address of* Thos. B. Watson *before the Clinton county Agricultural Society*.

Farmers' Dwellings.—We need a great improvement in this respect—we need a distinctive *Rural style of building*—comfort and convenience combined with neat and simple elegance. Nothing expensive, gaudy or obtrusive, but graceful in form, chaste in ornament, with quiet, neutral colors sweetly blending with the surrounding green, all breathing an air of peaceful, calm repose on which the eye may rest with pleasure. I would gladly enlarge upon this, did time permit. The house should not only be sheltered but *adorned* with trees—none more beautiful than those of our own forests.

A few choice fruit trees of various kinds, with grapes and smaller fruits which need but little care, with flowering shrubs and ornamental climbers should be there. None of the adornments of beauty are more graceful or attractive than fragrant and blooming vines around the rustic porch. And—let there be a *garden* too, it need not be a large one—not the unsightly patch of neglected earth sometimes so miscalled, intended for potatoes and cabbages, but filled with burdock and nettles, but a neatly arranged plat for shrubs and flowers, laid out with taste and kept with care—*cultivate a taste* for flowers, and teach your children to love them. In doing so, you give them new sources of pleasure—new facilities for enjoyment. And do not deem the time they bestow upon them, lost time; it is well bestowed, and will yield a rich return in pure and simple joy, and the cheerful love of home. *Address of* T. D. Burral, *before the Ontario Agricultural Society*.

New-York State Agricultural Society.

The annual meeting of this Society, for 1850, will be held at the Capitol in this city, on Wednesday the 16th of this month, to continue two days. The annual address, by the President, Hon. John A. King, will be delivered on the evening of the 17th; and it is expected that Prof. Johnston of England, whom the Society have engaged to deliver a course of Lectures here during the winter, will deliver a lecture on Wednesday evening the 16th.

In addition to the awarding of premiums on essays, farms, grain and root crops, butter and cheese, an exhibition of winter fruits will be had at the Agricultural rooms. This exhibition, last year, was very superior, and it is hoped that an equally fine display will be made this winter. Persons who are willing to aid in this exhibition, are requested to have their fruit properly labelled with its name, and the name and residence of the exhibitor, and securely packed and directed to the Secretary, Agricultural rooms, Albany, and sent at as early a day as practicable.

At a meeting of the Executive Committee, on the 13th of December, the following gentlemen were appointed Judges to award the Premiums, at the winter meeting of the Society:

Management of Farms—Samuel Cheever, Saratoga; B. B. Kirtland, Rensselaer; David Sill, Washington.

Butter and Cheese Dairies—B. P. Johnson, Albany; Joseph Cary, do.; Levi T. Marshall, Oneida.

Essays, Draining, and Agricultural Work for Common Schools—John Delafield, Seneca; John P. Beekman, Columbia; George Geddes, Onondaga.

Butter and Cheese Exhibition—Henry Wager, Oneida; G. J. Barber, Cortland; Samuel Cary, Albany.

Fruit—Herman Wendell, M. D., Albany; Lewis F. Allen, Erie; Sanford Howard, Albany; Henry Vail, Rensselaer; Charles H. Tomlinson, Schenectady.

Field Crops.—*Wheat and Rye*—Alonzo Upham, Genesee; J. B. Burnet, Onondaga; D. S. Curtis, Columbia.

Indian Corn—Wm. Newcomb, Rensselaer; H. T. E. Foster, Seneca; James Rees, Oneida.

Barley, Oats, Buckwheat, Peas and Beans—J. W. Ball, Otsego; Luther Leland, Oneida; Martin Springer, Rensselaer.

Potatoes and Root Crops—Orlando Allen, Erie; C. D. Palmer, Waterville; John Foster, Hillsdale, Columbia co.

Corn Fodder, Flax, Hops, &c.—Wm. Buel, Monroe; Benj. Enos, Madison; Amos Briggs, Rensselaer.

For Arrangements for Pomological Exhibition—J. McD. McIntyre, Albany; H. Wendell, M. D., do.; James Wilson, do.

Committee on Treasurer's Accounts—Geo. Vail, John A. King, Pres't, and B. P. Johnson, Sec'y

Notes for the Month.

To our Friends and Patrons.

We have the pleasure of presenting to our readers this month, a DOUBLE NUMBER,—the additional 32 pages consisting of the PICTORIAL CULTIVATOR, which contains over *One Hundred Engravings*, consisting of about fifty Portraits of Domestic Animals, including Horses, Cattle, Sheep, Swine, and Poultry—twelve views of Houses and Barns—sixteen figures of Fruits—seventeen of Implements—ten of Ornamental Structures, and a great variety of miscellaneous articles. It is intended to form the first sheet of this year's volume, and the regular number is paged consecutively with it.

Our readers will perceive that we commence with the present number, a series of Letters from Prof. NORTON of Yale College, who it gives us pleasure to state, will continue them through the year. We are not less gratified in being able to announce that Mr. HOLBROOK, to whom we are indebted for many very valuable papers given in our last volume, will continue his contributions. With these aids, in addition to those of Mr. HOWARD and Mr. THOMAS, and a numerous list of correspondents, the publisher trusts that he will be enabled to fulfil all reasonable expectations, and to furnish such a journal as will richly deserve a place in the hands of every farmer and his family.

To Agents and Postmasters.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following PREMIUMS will be paid in Books, or in Implements or Seeds from the Albany Agricultural Warehouse, to those who send us the largest lists of subscribers for this year:

1. To the one who shall send us the largest number of subscribers to the CULTIVATOR for 1850, with the pay in advance, at the club price of 67 cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the FIVE next largest lists, each FIVE DOLLARS.
7. For the TEN next largest lists, each THREE DOLLARS.

In addition to the above, a copy of Thomas' "AMERICAN FRUIT CULTURIST," price one dollar—a very valuable work, just published—to every agent who sends us Fifteen subscribers and $10, and who does not obtain one of the above prizes.

☞ Agents who compete for our premiums, will aid us in keeping their accounts, if they will number their subscribers, 1, 2, 3, and upward.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office. We will address them to as many different offices as may be necessary.

☞ COMMUNICATIONS have been received since our last, from Prof. J. P. Norton, P., R. H. Drake, C. H., Oliver Harmon, C. Fredericks, A Subscriber, A Farmer, A Subscriber, Jas. R. Hammond, F. Holbrook, S. P. Chapman, Alumnus, Wayne, A Practical Farmer, L. Durand.

BOOKS, PAMPLETS, &c., have been received as follows:

An Address delivered at the Annual Fair of the New-Haven County Horticultural Society, Sept. 26, by S. B. PARSONS—with the Transactions of the Society.

Letter to Hon. John M. Clayton, Secretary of State, enclosing a paper Geographical, Political, and Commercial, on the Independent Oriental Nations, and containing a Plan for extending American Commerce in the East, by AARON H. PALMER.

Report of the Autumnal Exhibition of the Cincinnati Horticultural Society, for 1849.

Address before the Kalamazoo County (Mich.) Ag. Society, Oct. 11, 1849, by J. R. WILLIAMS.

Catalogues of the Officers and Students of Harvard, Yale, and Hamilton Colleges, for 1849—50.

Agricultural Address of Maj. JOHN M'GAUGHEY, at Greenville, Tenn., from E. LINK, Esq.

Address on the Progress and Improvements that have been made in the Mechanic Arts, before the American Institute, by Rev. JOHN ALBURTIS.

Address before the Norfolk (Mass.) Ag. Society, on the occasion of its first exhibition at Dedham, Sept. 26, 1849, by Hon. MARSHALL P. WILDER, President of the Society.

LIBRARY OF THE LATE MR. COLMAN.—We learn from JOHN W. PROCTOR, Esq., that the officers of the Essex County (Mass.) Agricultural Society, have purchased from the library of the late Rev. H. COLMAN, about 500 volumes, relating to agriculture, some of which are rare and valuable. The Society designs to make this the foundation of an extensive and select library for the benefit of the members.

IMPORTATION OF SAXON SHEEP.—Messrs. D. W. CATLIN, of New-York, and CHAS. B. SMITH, of Wolcotville, Ct., have lately imported 20 Saxon sheep from the flock of Baron de Speck, Leitchena, near Leipsic, Saxony, the same gentlemen from whom Messrs. Catlin & Smith received a lot last fall. They are said to combine every requisite, in a fine sheep, fine form, good constitution, compactness and weight of fleece, and fineness of fibre. We are informed that ten more sheep from the same flock are daily expected.

ATMOSPHERIC CHURNS.—Most of our readers are probably aware that there have been various churns introduced under this name, within a few years. We have, on a former occasion, noticed some trials which have been made with some of this kind; and in reference to the butter produced by them, have stated that it did not appear to be of as good a quality as that made in other churns. This is corroborated by Mr. B. A. HALL, of New Lebanon, N. Y., whose reputation as a dairyman is well known. In a communication to the *Boston Cultivator*, he says—"The introduction of atmospheric air into churns, having the effect that its advocates claim, (viz. quick churning,) has a decided tendency to injure the butter."

THE WAGENER APPLE.—We are informed that Mr. CHAS. LEE, of Penn-Yan, by whom this fine apple was brought into notice, has disposed of all the scions he has to spare of this variety, to Col. E. C. FROST, of Catherine, Chemung county, N. Y., who, it is stated, has now growing in his nursery, several thousand trees of this kind, all grafted from unmistakable sources.

GLUE NOT DISSOLVED BY ALCOHOL.—A correspondent, "S. S.," of Philadelphia county, Pa., informs us that having seen it stated that common glue dissolved in alcohol, was an excellent and convenient article, he concluded to try it, but could not make the two substances mix. He says, "I let cold alcohol stand for weeks upon glue—boiled glue in the spirits—let them stand for a week together in a sand bath on a cooking stove—melted the glue and tried to mix hot alcohol with it—did ditto and tried cold alcohol, and every effort resulted the same, viz: the glue staid glue, and the alcohol staid clear, pure alcohol."

Agricultural Statistics.—We learn that Dr. Daniel Lee has been appointed to take charge of the agricultural matters pertaining to the U. S. Patent Office, and that he is to prepare a report to Congress, at its present session. We think this appointment a fortunate one. Dr. L.'s long connexion with the agricultural press, and his personal acquaintance with different sections of the country, together with the close attention which he has for many years devoted to the subject of agriculture, have particularly qualified him for such a station, and under his supervision, we shall confidently look for a document comprising a great amount of statistical and practical information, touching the resources and productions of the country.

Ayrshire Cattle for Ohio.—Messrs. Wm. H. Ladd and J. R. Cunningham, of Richmond, Jefferson county, Ohio, have purchased of E. P. Prentice, Esq., of this city, his imported Ayrshire bull, which took the first premium in his class at the last show of the N. Y. State Agricultural Society, together with a fine three-year-old heifer and a heifer calf, of the same breed. They are excellent animals, and will prove a valuable acquisition to the dairy stock of the fine section for which they are destined.

Hereford Cattle.—Several years ago, Mr. Edward Wells, of Johnstown, N. Y., purchased eight or ten head of prime Hereford cattle, and about the same time several head of fine short-horns. A short time since, we had the pleasure of seeing Mr. W.'s stock. Both breeds have done well in his hands; but from the greater hardiness of the Herefords, and their ready thrift on ordinary fare, Mr. W. inclines to give them the preference. He is confident, that as grazing stock, they will give a greater return for the food consumed, than any other stock he has ever kept. He has some very superior animals of this breed.

Suffolk and Middlesex breeds of Swine.—In our late excursion to Massachusetts, we frequently saw specimens of these excellent breeds, and crosses between them. They were first introduced by Mr. Wm. Stickney, of Boston, who has made several importations of them. He breeds them chiefly at his farm in Vermont; but he showed us a fine boar and a young sow at his place at Cambridge. W. O. Bartlett, Esq., of Worcester, has some excellent stock from crosses of these breeds. Col. Jaques, of the Ten-hills Farm, Somerville, has some prime pigs from a cross of the Suffolk and Mackay. We are informed that pork from hogs of these breeds, readily sells in Boston at a cent and a-half per pound above the average market price. They fatten easily at any age.

Rensselaer Institute.-We learn that the friends of this institution are making efforts for its enlargement, and its improvement in other respects. We trust these efforts will be successful. There is no other institution in the country, we believe, which is organised with special reference to giving the student in civil engineering a thorough and systematic course of training. We understand that the institution now numbers about fifty students, about one-third of which come from our own state, and the remaining two-thirds from various other states. The sum required for immediate use, is between five and six thousand dollars; and we cannot doubt that the usefulness of the institution is so well appreciated by the public, that the necessary funds for carrying out the proposed improvements, will shortly be raised.

New Edition of the Farmer's Encyclopedia.—A new edition of this valuable work has been issued by Messrs. Carey & Hart, Philadelphia. It is elegantly bound, and forms a very handsome volume of near 1200 pages. It is especially valuable to the farmer as a book of reference.

Samples of Wheat from Morocco.—We have just received from our Consul-General at Tangier, Thomas H. Hyatt, Esq., samples of six kinds of wheat grown in that country. Its appearance is not very promising, but we shall give it a trial.

Form of the Plow.—Mr. John D. Spinner, of Herkimer, N. Y., says, "I wish to call the attention of plow-makers to a very common defect in plows. For loose, mucky soil, they are, as a general thing, too hollow in the mould-board, and too low in the beam, just forward of the body of the plow. They should be made more full, and higher, to let the earth slip from them. The iron used in their manufacture should be of the best kind, that it may wear smoothly and cause the plows to clean themselves."

Potato Rot.—Mr. C. Frederick, of Paterson, N. J., informs us that some potatoes on his farm which had Indian corn growing in the same hills, escaped the rot, while the rest of the potatoes in the same field rotted. We have heard this suggested as a preventive. before, but have also heard of several cases where it had no effect at all.

Fine Fowls.—The fowls advertised by Mr. Platt, in this number, are worthy the notice of amateurs in this line. As a curiosity and ornament to the poultry yard, nothing can excel these Bantams, *in their way.* They may be said to be a perfect fowl in miniature. In regularity and beauty of plumage, some of them almost equal a wild fowl, and indeed it is probable that at no distant day, their progenitors were inhabitants of the jungles of India. Mr. P.'s large fowls are equal in shape and apparent good qualities, to any we have seen.

Industrial Show of Nations.—We learn from the English papers, that at the suggestion of Prince Albert, and, it is understood, under the patronage of the Queen, a grand exhibition of the industrial products of all nations is to be held in London, in 1851. It is remarked, that "the parentage of the project, and the auspices under which it is introduced to the attention of the public, will so far ensure for it all the success that can be desired." The subjects of the exhibition are to be fourfold, viz: raw materials, machinery and mechanical inventions, manufactures, sculpture and plastic art in general.

The exhibition will probably be the most splendid affair of the kind ever witnessed in the world. It is proposed to raise £100,000 for the general expenses. The prizes are to be one money purse of £2,000, four of £1,000 each, and several costly medals, which are to be conferred by the Queen in person. We shall notice the list of prizes, which it is presumed will be brought out in due time.

Subsoil Plowing.—Mr. Buckminster, of the *Mass. Plowman*, relates his mode of subsoil plowing, by which a saving of manual labor is effected. Instead of taking two teams,—as is usually done in this kind of plowing, requiring two drivers and two plowmen, where more than one yoke of oxen, or a pair of horses are used to each team,—he put the teams together, and fastened the subsoil plow to the other, by hooking the chain round the coulter. One man drove the teams, each plow having a holder, and the work was done as well and as rapidly as before.

☞The late English papers announce the death of C. Hilliard, Esq., author of "Practical Farming and Grazing," and for many years an able contributor to the English agricultural periodicals.

Lectures by Professor Johnston,

BEFORE THE N. Y. STATE AG. SOCIETY.

Syllabus of a course of Lectures on the general relations of science to agriculture, by JAMES F. W. JOHNSTON, F. R. S., &c.:

1st. The Relations of Physical Geography to Practical Agriculture.

2d. The relation of Meteorology to Practical Agriculture.

3d. The relation of Botany and Zoology to Practical Agriculture.

4th. General relations of Geology to Practical Agriculture.

5th. Relation of Chemistry to the soil, and its practical improvement.

6th. Relations of Chemical Physiology to the plant and the modes of promoting its growth.

7th. Relations of Chemical Physiology to the animal, its food and its growth.

8th. Relations of Chemistry to the Doctrine of Manures.

9th. Means by which general scientific knowledge may be diffused and made available for the improvement of practical agriculture, and the general elevation of the agricultural class.

The Lectures will commence early in January.

B. P. JOHNSON, *Secy.*

Rot in Potatoes.

CHAS. W. TAYLOR, Esq., of Trevose, Bucks Co., Pa., writes—"I hope you have been more fortunate with potatoes this year than we have in this neighborhood. The rot is by no means extinct. Out of 3 or 4 different plantings, our earliest only escaped. I suppose two-thirds of the remainder were affected; but we do not lose them entirely as we feed them to our stock as soon as we see the slightest symptoms of the disease. I obtained some seed from the Rev. Nathan Smith, of Buffalo, N. Y., last fall, and had them sown in a hot-bed this spring, and planted out as soon as they were of suitable size. They were planted in *trenched* ground, tolerably manured from the horse stable. They grew well, and the tops remained green until quite late in the season. Mr. S. informed me that I might expect to have them attain the size of walnuts the first year of the growth, but a very considerable proportion of them were three to four times as large and bore as many as twenty tubers, counting from the largest down to about the size of a hickory nut, leaving a number of smaller uncounted. After this, I am sorry to add that I think they rot as badly, or even worse, than any of our other kinds; although, in my estimation, in regard to time of planting, manure, situation, &c., they had the advantage in every respect. It is becoming somewhat doubtful now whether we shall save enough to plant again of some of the kinds."

How to Raise Indian Corn.

EDS. CULTIVATOR—I have tried nearly all the ways recommended for raising Indian Corn, and have found the following to be the best. In the spring, I haul all the manure I can spare on some piece of sward ground, and put it in heaps. I defer plowing till near the time of planting, when I spread the manure, and turn it under with much care. I then roll it with a heavy roller lengthwise of the furrows and harrow it well the same way. I mark it out both ways, three feet and four inches, plant the corn about an inch deep and use the cultivator three times both ways. At the second time of going through it with the cultivator, I follow with the hoe and clean out all the grass and weeds in the hill, but I never haul dirt to the corn. I make no hill, as I think it does more hurt than good; and at the time of gathering my crop the ground is as smooth and level nearly as an oat or rye field.

I have pursued the above method for three years, and have usually reaped about 50 bushels of shelled corn to the acre. The last season I raised at least 75 bushels of shelled corn to the acre, by the same method. I can now raise from 50 to 75 bushels to the acre, as easily as I formerly could 15 to 20, and it is all through the information I have received from the Cultivator. A PRACTICAL FARMER. *Westchester county, N. Y., Dec.* 1, 1849.

Care of Stock.

EDS. CULTIVATOR—One of the principal employments of farmers in winter, is in taking care of stock. It is one thing to let stock shift for themselves, and quite another thing to take care of them. The difference is, that in one way your stock is brought out in good condition in spring, while in the other they are, if brought out alive, mere skeletons with skins on.

The advantages of sheltering animals by stables and sheds, are better understood now than formerly; although the old practice still lingers on some farms, where the shivering and bellowing animals speak for themselves, as to its effects. The old plan of stacking hay about the farm, and feeding it to animals in winter, with only a rail fence for shelter, is sometimes seen at the present day. If the ghosts of animals which have died for the want of shelter, could haunt the imaginations of these careless farmers, it might, perhaps, cause a change in their management.

Stacking out hay and fodder, causes waste enough in a few years, to pay for building good barns, sheds, and shelters for hay and animals. Sheds, high and dry, closed at the north, east, and west, and open at the south, are, I think the best for sheep. This gives them sufficient air, and is better for their health than close stables. The worst storms for sheep, in New England, are the cold rains with easterly winds; and if they are not sheltered, they are drenched through, and when the weather changes to cold, the wool freezes on them; and if they are in low flesh, death is often the consequence. L. DURAND, *Derby, Ct., Dec.*, 1849.

☞ HANDLE your tools without mittens, for a cat in gloves catches no mice.

Prices of Agricultural Products.

New-York, Dec. 15, 1849.

FLOUR—Genesee, per bbl., $5—Fredericksburgh, $5a$5.06.

GRAIN—Wheat, Canadian, per bush., 105c.—North Carolina red, 94c.—Corn, Northern and Jersey, 54a58c.—Rye, 59½a60c.—Barley, 63a65c.—Oats, 44a45c.

BUTTER—best, per lb., 18a20c.—Western dairy, 16a17c

CHEESE—per lb., 6a6½c.

BEEF—Mess, per bbl., $8.75a$9.75—Prime, $7.25.

PORK—Mess, per bbl., $12.50a$13—Prime, $8.75

LARD—in kegs, per lb., 6¼a6¾.

HAMS—Smoked, per lb., 7a9c.

HOPS—first sort, per lb., 17c.

COTTON—Upland and Florida, per lb., 9¾a11½c.
New Orleans and Alabama, 9¾a12c.

WOOL—(Boston Prices.)
Prime or Saxon fleeces, per lb., ... 40a43c.
American full blood Merino, ... 35a37
do half do 30a32
do one-fourth do, and common, .. 27a29

REMARKS—The demand for flour is fair, and good brands are firm. The present low rates, cause some inquiry for exports. There is but little inquiry for corn or corn meal. The demand for mess pork is large. In beef there is not much doing.

Books for Rural Libraries.

THE following works are for sale at the office of THE CULTIVATOR, No. 407 Broadway, Albany:

American Agriculture, by R. L. Allen, $1.
—— Bee-Keeper's Manual, by Miner, $1.
—— Fruit Culturist, by J. J. Thomas, $1.
—— Shepherd, by L. A. Morrell, $1.
—— Poulterer's Companion, by C. N. Bement, $1
—— Veterinarian, by S. W. Cole, 50 cents.
—— Farmers' Encyclopedia, $4.
—— Flower Garden Directory, by R. Buist, $1.
Agricultural Chemistry, by Prof. Liebig, $1.
" " by Prof. Johnston, $1 25.
" " by Chaptal, $50 cents.
Cottage Residences, by A. J. Downing, $2.
Domestic Animals, by R. L. Allen, 75 cents.
Domestic Economy, by Miss Beecher, $1.
Domestic Family Receipt Book, by Miss Beecher, 75 cents.
Family Kitchen Gardener, by Robert Buist, 75 cents.
Farmers' Manual of Manures, by F. Falkner, 50 cents.
Fruits and Fruit Trees of America, by A. J. Downing, $1.50.
Farmers' Dictionary, by Prof. Gardener, $1.50.
Farmer's Companion, by Judge Buel, 75 cents.
Landscape Gardening, by A. J. Downing, $3.50.
Practical Treatise on the Culture of the Grape Vine, by J. F. Allen, $1.
Cole's American Fruit Book, 50 cents.
Theory of Horticulture, by Prof. Lindley, $1.25.
Rural Economy, by Boussingault, $1.25.
Transactions of the N. Y. State Ag. Society, $1 per vol.
Hints to Young Architects, edited by A. J. Downing, $1.50.
Treatise on Milch Cows, by F. Guenon—paper covers, 37½—bound 62½ cents.
Self-Education, or the Philosophy of Mental Improvement, by Hosmer, 75 cents.
Cultivation of the Grape Vine, by C. Hoare, 75 cents.
Young Gardener's Assistant, by Bridgman, $1.75.
Kitchen Gardener, by Robert Buist, 75 cts.
Farmer's Book and Family Instructor, by Pritts, $2.
Complete Farmer, by Fessenden, 75 cents.
Elementary Instruction in Analysis, by Fresenius, $1.
Farmer's Dictionary, edited by D. P. Gardner, $1.50.

Good Opportunity for Situation.

A GENTLEMAN in *Eastern Va.*, desirous of engaging in other pursuits for 8 or 10 years, wishes to arrange with some intelligent, upright, industrious, persevering farmer, from the north,—one who can come well recommended in every way, to take charge of his farm on the 1st March next, for a term of years, upon shares.

Said farm is within easy distance of the markets of both Petersburg and Richmond, and near James river. It contains 500 acres—300 arable, well marled; 50 acres of unclaimed meadow, 20 reclaimed, 5 in grass, 150 well set in clover; is excellent wheat, corn, and clover land, and easy to work and improve. There is 100 acres seeded in wheat. The land is well adapted to grazing, and has a fine range for sheep. There is a young orchard—400 choice apple trees, usual stock—utensils, &c.; good house, out-houses, garden, 2 barns, 400 feet of shedding for stock, 2 wells, &c. The farm is well watered. He wishes it converted, as much as possible, into a grazing and dairy farm. He will furnish 6 hands, and provisions for one year, and furniture in house.

To any man who can come suitably recommended, and who is able to invest $2,500 in additional stock (cows or sheep,) and utensils, manures, &c., he will give one-fourth of the *clear profits* for ten years, and the value of the stock he put in at the end of ten years—or refund $2,500, and pay for all *permanent improvement* during that time. The farm must be improved as much as possible—as may be contracted. In selecting cows, it must be with a view to dairy; sheep, for wool and mutton. Any one coming, should bring persons skilled in dairy management. A peach orchard would be found extremely profitable. The entire management, except permanent improvements and alterations, will be given up to the party agreeing. Direct to P, Cabin Point, Va.

N. B. His reason for requiring an investment, is to make the party more interested. The farm can easily be made to realise $4,000 a year, or more, by good management. Hay commands $1, to $1.25. Butter, 20 to 25 cents. The farm is perfectly healthy.

December 1, 1849—3t.

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E. PLANT, No. 30 Cedar Street, New-York, Agent for the Proprietor, for making and selling the "Warren" Improved Two and Four Horse Powers and Threshers. Also, "Trimbles."

Price of the "Warren" Two Horse Power and Thresher, only $80
do do Four do do do $110
Price of the "Trimble" Two Horse Power, (without Thresher,) $60
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Bands, from $4.50 to $6.

These *latest Improved* Threshers and Powers give universal satisfaction, and are deemed far superior to any others known heretofore for any thing like their cost.

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The undersigned also continues the business of the late E. Plant & J. Plant, (E. Plant & Co.,) of Purchasing for Orders, on Credit or for Cash, Dry Goods, Groceries, Hardware, &c., &c., for a commission of 2½ per cent. Produce, such as Sugar, Cotton, Tobacco, Peltries, &c., also received and sold on Commission. E. PLANT,

Dec. 1, 1849—6t. No. 30 Cedar St New-York.

School of Applied Chemistry,

Yale College, New Haven, Ct.

B. SILLIMAN, Jr., Professor of Chemistry applied to the Arts.
J. P. NORTON, Professor of Agricultural Chemistry.

THE Laboratory in this department is open during nine months in the year for instruction in the analysis of soils, minerals, ores, &c.

During the summer and autumn terms, there will be lectures on Mineralogy, Geology, Natural Philosophy, Elementary Chemistry, and other useful branches of Natural History.

The annual course of lectures on Agricultural Chemistry, by Prof. NORTON, will commence soon after the middle of January, and continue till about the first of April, at the rate of four or five lectures in each week.

These lectures are intended to be delivered in a form quite intelligible to those who never turned their attention to chemical studies. The great principles of Improved Agriculture will be illustrated and explained during the progress of this course in such a manner as to be understood by all. Tickets for the course $10.

Students in the laboratory have glass, chemicals, balances, and other apparatus furnished, and pay $20 per month. Analyses of minerals, soils, &c., made on reasonable terms.

For further particulars apply to either of the Professors.

New-Haven, Ct., Sept. 1, 1849.—5t.

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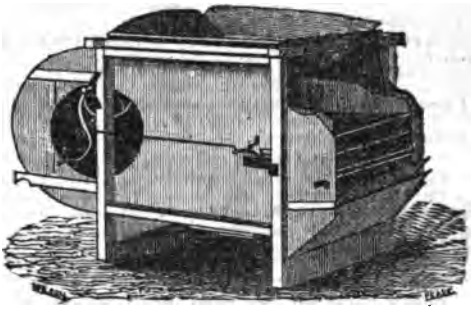
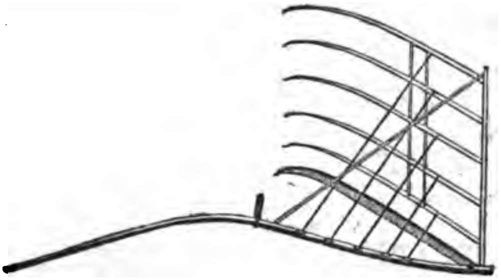


WE continue to manufacture these celebrated Mills and Cradles. They have been awarded six first premiums at the New York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat. and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."

Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.



The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention.

I. T. GRANT & CO.
Junction P. O., Rens. Co., 8 miles north of Troy

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Jan. 1, 1850.—3t.

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BEING a History and Description of Various Kinds of Domestic Fowls, with complete directions for their Management, Breeding, Crossing Rearing, Feeding, and Preparation for a Profitable Market. Also, their Diseases and Remedies. And complete directions for Caponising. Arranged from the best authorities in Europe and America.

Illustrated by numerous original engravings. Forming the most Practical Manual for those who are desirious of raising poultry, that has been published in this country. Price $1, bound.

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Also, Allen's American Farm Book, $1.
Allen's Domestic Animals, 75 cents.
Miner's Am. Bee Keeper's Manual, $1.
Gunn's Domestic Medicine (117th thousand,) $3.

Jan. 1, 1850.—2t.

Morgan Colt.

I HAVE a Stallion Colt, two years old the first of June last,—he was sired by the Morgan horse Gen'l. Gifford, lately sold by Geo. A. Mason, of Jordan, N. Y., and will closely resemble his sire for size, color, form and action. His dam is a low, close-built bay mare, 33 years old, and still living about 6 miles from me. She was sired by the *Original Morgan Horse.*

I should sell the said colt for the low price of $150, if taken between this and the first of February next. C. BLODGETT.

Chelsea, Vt., Jan. 1, 1850.—1t.*

Choice Fowls for Sale.

SEVERAL pair of very fine, clean-legged Bantams, from stock imported a few years since from Java. They are about the size of an ordinary pigeon, and of the most perfect form. Their plumage varies in different specimens, from clear white to black; some of the cocks being red with black breast, and others handsomely spangled.

Also, several pair of large fowls, derived from a cross of the Dorking. They are short-legged and full-breasted; grow quickly to a large size, and give excellent flesh. At six months old, some of the stock have weighed five pounds each, dressed. E. E. PLATT.

Albany, Jan. 1, 1850.

Ayrshire Stock for Sale.

ONE thorough bred Bull 3 years old.
One do. do. Cow 8 years old, with Calf.
One do. do. Heifer 2 do. do.
Several half blood yearling Heifers.

This stock is of the best Ayrshire blood in the country.

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December 1, 1849—2t. Norfolk, Conn.

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THE subscribers are prepared to import, on very favorable terms, from the most distinguished and reliable seed establishments in London, or on the continent of Europe, seeds in quantities, and of *a quality on which the utmost dependance may be placed.* The seeds will be forwarded in the original packages, and original invoices furnished. Persons wishing to import may thus avail themselves of the experience of the subscribers, by the payment of a small commission.

JAS. M. THORBURN & CO.,
15 John-street, New-York.

☞ Red Top, Orchard, Ray and other grasses, White Dutch Clover, Lucerne, &c. &c., low by the quantity.

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THE CULTIVATOR

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

New Series. ALBANY, FEBRUARY, 1850. Vol. VII.—No. 2.

Should the Farmer be a Man of Knowledge?

Editors of the Cultivator:—As *you* well know, a controversy has been going on for many years between the plow-joggers on one side, and the Agricultural Journals and 'book-farmers' on the other, as to whether *the Farmer should be a man of Knowledge?*

The first named class contend, that to follow the dogmas of tradition, and, under such guidance, toil and sweat away life in mere physical labor; to read and write indifferently, or perhaps make his mark; to study his almanac faithfully, and plow, sow and harvest according to the old or new of the moon; to chalk his 'deal' on the barn-door or his hat; to avoid an agricultural paper, or a 'book-farmer,' as he would a pestilence; to extract the fertility of the soil, and leave mother earth with her future generations, to shirk for themselves as best they can:—that *these* are the kind of qualifications to make a good farmer.

The other class contend, that the farmer should be a man of reading, observation and study; that his calling involves a degree of scientific inquiry equal to that of almost any other; that inasmuch as the advancing spirit of the times is in other callings continually crying out—"Onward!" he should partake of that spirit, advance with others in education and mental discipline, and claim, and be able to take, equal rank with the highest.

Being, on the whole, rather inclined to favor the views of the last-named class, I shall briefly survey a portion of the ground involved in the question, in order to see for myself whether the Farmer should be a man of general as well as particular knowledge. If I find the 'lay of the land' such as I suppose it to be, I shall take a decided stand with my friends, the Journals and 'book-farmers.'

In the short and graphic account given us of the Creation, we are informed that after form had been given to matter, and the vegetable and lower animal world had been brought forth to life, man was made, in the image of his Creator, to be lord of his other works, and commanded to subdue and cultivate the ground. Or, in the noble lines of the poet:

> "There wanted yet the master-work, the end
> Of all yet done; a creature who, not prone
> And brute as other creatures, but endued
> With sanctity of reason, might erect
> His stature, and upright with front serene
> Govern the rest, self-knowing; and from thence,
> Magnanimous, to correspond with heaven:
> But, grateful to acknowledge whence his good
> Descends thither, with heart and voice, and eyes
> Directed in devotion, to adore
> And worship God Supreme, who made him chief
> Of all his works."*

The pursuit, then, originally assigned to man, was that of Agriculture, and thus did his Maker confer superior dignity upon it. He was endued with reason, to distinguish him from, and elevate him above the lower animals, and to enable him, among other things, properly to subdue and cultivate the earth. Reason is by far the most important of man's intellectual powers. By it he devises means to accomplish ends, distinguishes truth from error, or, in other words, acquires knowledge. It is also progressive from infancy to age. It is on the right use of reason that our success, both in the pursuit of knowledge and happiness depends; and in proportion as we acquire knowledge, so, in turn, is reason enlarged and strengthened, and we are thus enabled to make still higher acquisitions. To accomplish desirable ends, then, the original gift should be improved by the attainment of knowledge.

Knowledge expands the mind of the farmer from mere attention to details and brute force, to an extensive comprehension of general principles—those great cardinal principles by which nature is governed in her operations, and with which he necessarily comes in contact every day. In the business of cultivation, an infinite diversity of principles and mysteries arise to the thoughtful mind, many of which, if ever understood at all, must be wrought out by the utmost efforts of perfected Science, and a cultivated mind. Few of us, indeed, can give a satisfactory reason for many of the simplest operations of nature which are continually before our eyes. We are therefore about as liable to go wrong as right, in some of our commonest methods of tillage.

It has been said that "Mind is the great lever of all things; human thought the process by which human ends are ultimately attempted." If this be true, then, in proportion as the mind is expanded by knowledge, so is this lever lengthened and strengthened, by which we open the vast frame-work around us, diffuse light where all before was darkness, solve problems which otherwise would never be known or only seen in dim obscurity, and subject and mingle elements before beyond our control. In short, we are thus enabled the better to obey the divine command to subdue and cultivate the earth, and to use its elements and its creatures for desirable ends. The ejaculation of an ancient fabled combatant, when enveloped in clouds and darkness, is an appropriate petition for us farmers, benighted as we are, in ignorance of great principles with which we daily have to do:

> 'Dispel these clouds, the light of heaven restore,
> Give me to see—and Ajax asks no more.'

Knowledge exalts all the faculties of the mind. However much exalted, they will find ample scope for exercise in the pursuit of Agriculture. It is an occupation that eminently combines science with practice. If the powers of observation, reflection and generalization are quickened and exalted by knowledge, so as thereby to become more nearly adequate to the demands that the business naturally makes upon them, we may produce results, of which a state of arrogant ignorance never dreamed, nor was ever capable. Thus we see, that when we have given the farmer a taste for the acquisition of knowledge, we have made him a better bequest than money; for we have given him the habit of *thinking*, and that is the principle of all legitimate prosperity. It enables him at once to act and operate, to compare, contrive, invent, improve, and perfect,—to accomplish his ends in higher and still higher degrees.

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* Milton.

Then, too, the business of the farmer largely admits of, nay, in our view, it demands, observation and thought. While engaged in the health-giving labors of the field, breathing the invigorating air, and conversant with the principles and beauties of nature around him, he may pursue habits of thought to an extent, and with an elasticity and vigor of mind, which the student of the closet, struggling with an attenuated frame, trembling nerves, and a throbbing head, often sighs for in vain. We farmers who have not yet felt the importance of cultivating and *using* the thinking faculty to some valuable purpose, may with propriety receive and ponder the address of a profound thinker:

"My friend, *to have thought far too little*, we shall find among the capital faults in the review of life. To have in our nature a noble part that can think, would be a cause for infinite exultation, if it actually did think as much and as well as it can think, and if to have an unthinking mind were not equivalent to having no mind at all. The mind might, and it should be, kept in a state of habitual exertion, that would save us from needing to appeal for proof of its existence to some occasion yesterday when we did think or to-morrow when we shall. If all the short spaces of time in which we have strongly exerted our faculties could be ascertained, and reckoned together into one place, what a small part of life it would fill! The space, however, may be deemed the total of *real* life."[*]

Knowledge refines the taste, thus enabling us to perceive and enjoy the beauties and sublimities of nature. A state of ignorance cannot be favorable to the emotions of taste. Neither do we look for its exercise in the *mere* getter or hoarder of money, the man of loose morals, or dissolute habits. Refined taste is intimately allied to morals, for it naturally elevates the mind and ennobles the character of its possessor; and thus it is that knowledge, by refining the taste, indirectly favors virtue. Who, *if not the farmer*, should possess and enjoy a refined taste? The great Author of all has adorned his works with beauties and sublimities, that may excite the highest and purest emotions of which the human mind is susceptible. They solicit the senses of the farmer at every turn. The endless variety and beauty of flower, plant and shrub; the various stages of vegetation, from the germination to the full maturity of his crops; the majestic forest; the landscape of mountain and valley, of lake and river; the circling seasons; the wondrous workings of nature beneath his feet, as well as the sublime 'handy work' above him:—these all invite the husbandman to observation, and gently persuade, or more powerfully urge him to contemplate, through them, the great Author and Ruler of all.

Knowledge, both in acquisition and possession, contributes to happiness. The farmer has many leisure hours, during the stormy days of a season when he cannot work, and the long evenings of winter. These, if he has a taste for reading, he may beguile in an innocent, useful and happy way at home; while others, dependant upon foreign resources, repair to places of public amusement or dissipation, seeking an object that constantly eludes their grasp, or, if momentarily detained, usually turns to emptiness or pain. There is no pastime that in variety compares with the pursuit of knowledge. While the objects of inquiry are endless in number, each attainment is attended with new satisfaction and delight. A taste for literature or scientific inquiry once acquired, usually becomes confirmed into a habit for life, and forms an unfailing source of pleasure in old age. The growing infirmities incident to that period of life, bring many days of confinement and weariness, which may be greatly relieved by reading, or, if that be impracticable, by hearing others read. This arises naturally and necessarily from the very structure of the intellectual element.

"A degree of surprise and astonishment which cannot consist with the perfect comprehension of whatever falls under our cognizance, appears to be one ingredient, in the highest degree of felicity of which a rational being is susceptible. There is a principle in the constitution of our nature, which renders us dissatisfied with what we thoroughly understand in all its parts. When there is nothing more to be discovered, from that moment it begins to pall upon us, and we must pass to something which will give scope to the activities of the human mind."[*]

There is no amusement so cheap as that arising from the pursuit of knowledge. A trifling sum set apart annually, will purchase the advantages afforded by our numerous district, village, and other libraries, and our able agricultural, scientific and literary periodicals.

There are no circumstances so adverse as to preclude our attaining knowledge, if we resolutely strive for it. One is forcibly struck with the truth of this remark, in thinking over the long list of worthies who, under every disadvantage, and in addition to carrying forward some practical calling, have raised themselves to eminence in the empire of knowledge. In them, we find realized that most desirable, but quite too rare union, of studious habits with a practical business. Their example is most valuable too, as illustrating the fact that a taste for knowledge will, of itself, do a great deal towards its acquisition; and that where this taste exists, it usually surmounts all difficulties and bursts all barriers. Be it further remembered for our encouragement, that the kind of knowledge which gives strength does not so much depend upon the reading of *many* books, as upon the judicious selection and careful reading of a few, accompanied by the strenuous exertions of our own powers of reflection. In this way, all our powers become stimulated, and products begin to grow from within.

Knowledge is useful and important to man as a religious being. It is true that Christianity invites us all to partake of its blessings, upon compliance with its terms, whether we be learned or ignorant. But it addresses the understanding as well as the heart; its evidences challenge investigation; its hopes are addressed to the immortal element; its sublime faith calls forth the whole intellectual power; and the doctrine of immortality invests the mind of man with a dignity and grandeur, allied to a purer and nobler state of intelligence. In whatever other respects, then, we might conclude to dispense with the advantages of education and knowledge, when we consider man as a religious and immortal being, we wish to see his mind expanded, his faculties exalted, and his taste refined, that he may the better understand his duties and his destiny.

---

[*] Correspondence of John Foster.

[*] Robert Hall.

Knowledge, with virtue, is the foundation on which our whole system of government rests. The practical operation of this system creates a demand for every species of intellectual effort. As citizens under it, we are called upon to discharge the duties of elective franchise, to take part in the administration of justice, and to fill the various official trusts of State. The laws contemplate our fitness to discharge these various duties and trusts, under the guidance of opinions intelligently and independently formed, along with that sense of individual accountability which seeks not to hide itself in the crowd, or to be led by other dictation than its own. The correctness and eminent propriety of our theory in this regard, cannot be doubted. The nearer we approach it in practice the safer is our condition. When we reflect, that as our country increases in population and in extent of settled territory, various new and conflicting interests and questions will arise to increase and inflame partizan zeal—that a high state of faction tends to corruption—that there *are* precipices on either side of us whose *outer borders* would seem to forbid exploration further along—and that the huge swells of faction may rock us back and forth until we sway over into the chaos below; —we become more and more impressed with the importance of educating our rural population in knowledge and virtue, of combining in our farmers strong heads with honest hearts, that we may keep balance on ground, central from the broken extremes, and known and safe, where all sorts of good fruit grow in abundance, where prosperity has ever dwelt, and where it may ever dwell.

Our vast territory embraces every variety of climate and soil. It is capable of growing almost every known valuable production. The race of men inhabiting it is endowed with wonderful native sagacity and energy of purpose. Let this mass of mind be expanded and strengthened by knowledge, and a power is conferred for the development of our vast agricultural capabilities, not elsewhere to be found. It has been well said that "it is the glorious prerogative of the empire of knowledge, that what it gains it never loses; on the contrary, it increases by the multiple of its own power; all its ends become means; and all its attainments help to new conquests."* In this view of the subject, how directly does it become power to the farmers! Through them collectively, how eminently does it become power to the nation!

In this connection, we may appreciate the important influences imparted by our Agricultural Journals. They quietly visit the farmer at his dwelling, informing him of the known principles of Agriculture, and the march of Science towards further discoveries. They give him the results of the experience and practice of intelligent cultivators every where. Mind thus rubs against and polishes mind, and enterprise, and an ambition to improve, is excited. They stimulate him in turn to communicate his own ideas and modes of practice. When he has been induced to arrange his thoughts upon paper, an important step has been taken towards intellectual improvement. He is now in the way of thinking with greater precision and correctness on *all* subjects, and he awakens with a consciousness of power within himself that might not otherwise have been known.

Great advantages are yet to arise from the establishment of Agricultural Schools, and professorships of Agriculture in our Colleges. Organised on judicious principles, they would teach our young farmers the science and best mode of practice of Agriculture. In doing that, they would necessarily teach the *elementary* principles certainly, of six or eight sciences; and this would be likely to create a taste for the further investigation of those sciences, for reading and the acquisition of knowledge in general. In short, by these influences, imparted at a forming period, the boy comes to be a man of cultivation, of intellectual power. Expanded and well disciplined intellect always takes high rank among men. Thus we may conclude, that the farmers would oftener be heard to some purpose in the Councils of the nation, and the interests of Agriculture would receive more of that attention from Government, which they justly merit.

I have thus endeavored to survey a part of the ground covered by the question propounded at the outset. To my mind it is clear, that the Journals and 'book farmers' have a good and substantial argument in their favor; and I am forced to conclude that *the farmer should be a man of knowledge*, and I do not see that it could hurt him to have a good deal of it too. F. Holbrook. *Brattleboro,' Vt., Dec.* 15, 1849.

Live Fences.

The particular advantage of any kind of fence, depends on circumstances. Where suitable stones can be readily obtained, perhaps there is no fence to be preferred to a well-built and permanent wall. If the stones, in the outset, occupy the land so as to interfere with cultivation, the inducement for making wall is increased. In some places, the abundance and cheapness of suitable timber for fences, render it most economical to construct them of that material.

The comparative advantages of live and dead fences, in general terms, may be thus stated: Hedges can be reared where the materials for dead fences cannot be had, and, excepting the best of walls, are greatly superior in durability; dead fences commonly occupy less room, shade the ground less, and neither exhaust its moisture or richness, as is done by hedges.

The best plants for hedges in this country are undoubtedly the Buckthorn and the Osage Orange. We think the various trials which have been made with different plants, support this conclusion. The Honey Locust, which was considerably tried a few years since, fails to grow thick enough at the bottom, and is generally straggling and open. The English Hawthorn does not stand our hot and dry summers, and is liable to a blight similar to the "leaf-blight," and "fire-blight" in pear trees. The Newcastle, or American Cock-spur Thorn, and the Washington Thorn, have formerly been used extensively in some of the middle States, particularly in Delaware, where they succeeded well, but within a few years, the fine hedges of that section have all been destroyed by the borer, and this insect has also attacked the Hawthorn with equal fatality in many instances. It is true there are some neighborhoods where the Hawthorn has mostly escaped the casualties here mentioned, as in some parts of Seneca and Ontario counties, in this state; but its failure has been so general in most parts of the country, that it cannot be depended on as a hedge plant.

For the northern states and the Canadas, we should prefer the Buckthorn. Our reasons for the preference are its hardiness, its comparative exemption from disease, and from the attacks of insects, its rapid growth, and the general facility with which it may be made to answer the purpose of an efficient fence.

---

* Hon. D. Webster.

In our last number, we mentioned the Buckthorn hedges of E. **Hersey Derby**, Esq., of Salem, Mass. We think we have never seen more perfect hedges than these, and it may be interesting to the reader to learn something of Mr. D.'s mode of managing them.

In the *Transactions* of the Essex (Mass.) Agricultural Society for 1842, there is a paper on the cultivation of live-fences by Mr. **Derby**, for which the society awarded him the first prize offered on that subject. Mr. D. stated that it was then more than forty (now fifty) years since he commenced the trial of live-fences. His first trials were with the English Hawthorn, the Honey Locust, and the Crab Apple, all of which failed. In 1809 he made his first trial of the Buckthorn, in a hedge about twenty rods long, which has remained till the present time, not a single plant having failed from it, nor has it ever been known to be attacked by any insect. He has at various periods set out more Buckthorns, till he has now nearly 200 rods of them, forming a perfect fence. He says—

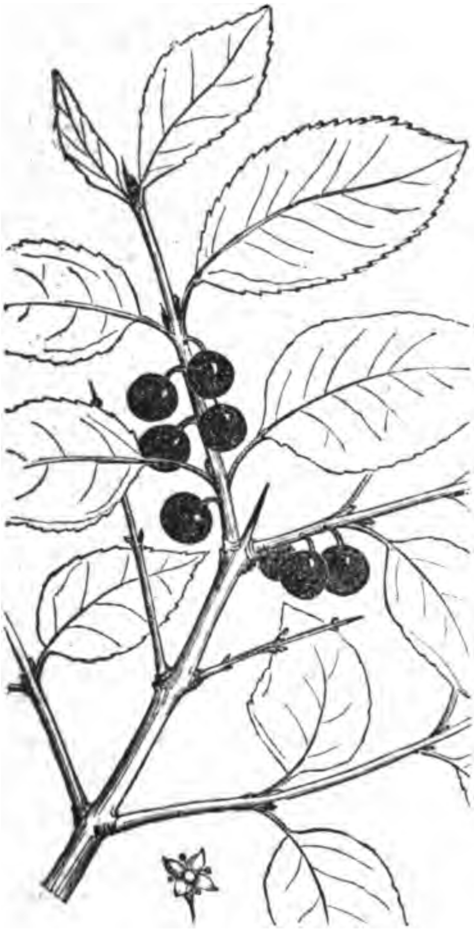

Fig. 1—Buckthorn—*Rhamnus catharticus.*

> I do not hesitate to pronounce the Buckthorn the most suitable plant for hedges that I have ever met with. It vegetates early in the spring, and retains its verdure late in autumn; I have often seen it green after the snows had fallen; it is never injured by our most intense cold, and its vitality is so great that it may be kept out of the ground a long time, or transported any distance without injury. It never sends up any suckers, nor is disfigured by any dead wood; it can be clipped into any shape which the caprice or ingenuity of the gardener may devise; and being pliable, it may be trained into an arch, or over a passage way as easily as a vine; it needs no plashing or interlacing, the natural growth of the plant being sufficiently interwoven. It is never cankered by unskillful clipping; but will bear the knife to any degree.

Mr. D.'s mode of cultivation is as follows:

> My method of forming a hedge is to set the young plants in a single row, about nine inches apart, either in the spring or autumn; if the latter, I should clip it the following spring to within six inches of the ground; this will cause the hedge to be thick at the bottom, which I regard as a great point of excellence; after this, all that remains to be done is to keep it clean from weeds, and clip it once a year. I consider June the best time to trim, as it soonest recovers its beauty at that season. The clipping may be done with the garden shears, a hedge-knife, or even with a common scythe.

Buckthorn plants, of proper size for transplanting into hedge-rows, may be had in abundance at most of our nurseries. The price for two-year-old plants is usually about $5 per thousand. They may be easily raised from seed, which may be had of the various seed-dealers at $1.25 per quart. It is usually planted in the fall, and most of the plants will make their appearance the next season, though some of the seed may lie in the ground till the second season before it vegetates. They may be planted on good land in the same manner as peas are planted, and the plants kept free from weeds until they are of sufficient size to put in the hedge-row, which size they will reach in one year, on rich land, and in two years on ordinary soil.

The preparation of the soil for the hedge plants, may be similar to that required for a crop of Indian corn, and as above remarked, all that is necessary is to keep the weeds and grass from growing near them. If the ground is wet, it has been found beneficial to dig trenches, two feet deep, and half fill them with small stones or coarse gravel, the natural soil being laid on the top, forming a slight ridge. This has been practiced with success on the level and somewhat wet lands of parts of Seneca county, in this state, as noticed in our volume for 1847, page 257.

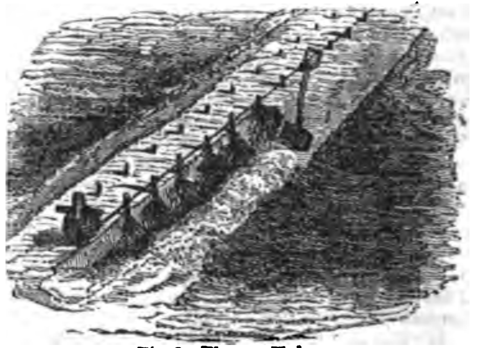

Fig. 2.—Planting Hedges.

The accompanying cut (fig. 2,) represents the manner of planting hedges. The details of planting are well described by Mr. **Downing**, in the first volume of the *Horticulturist*. He thinks the spring is the best time for planting, in the northern states, the autumn in southern. The soil having been properly prepared, by pulverization, &c., he says—

> The plants are now to be made ready. This is done in the first place, by assorting them into two parcels—those of *large* and those of *small size.* Lay aside the smaller ones for the richest part of your ground and plant the larger ones on the poorest of the soil. This will prevent that inequality which there would be in the hedge if strong and weak plants were mixed together, and it will equalize the growth of the whole plantation by dividing the advantages.
>
> The plants should then be trimmed. This is speedily done by cutting down the top or stem, to within about an inch of what was the ground line) so that it will, when planted again, have but an inch of

stem above the soil,) and by correspondingly shortening all the larger roots about one-third.

If you have a good deal of planting to do, it is better to bury the plants in a trench close at hand, or *lay-them-in-by-the-heels*, as it is technically called, to keep them in good order till the moment they are wanted.

The hedge should be planted in a double row, with the plants placed, not opposite to each other, but alternate—thus:

• • • • • • • •

• • • • • • •

The rows should be six inches apart, and the plants one foot apart in the rows. This will require about 32 plants to a rod, or 2000 plants to 1000 feet.

Having well pulverised the soil, set down the line firmly for the first row, and with a spade throw out a trench about eight or ten inches deep, keeping its upright or firm bank next to the line. Drop the plants along the line at about the distance they will be needed, and then plant them twelve inches apart, keeping them as nearly as possible in a perfectly straight line; for it is worth bearing in mind, that you are performing an act, the unimpeachable *straight-forwardness* of which will undoubtedly be criticised for many years afterwards. Press the earth moderately round the stem of the plant with the foot, when the filling-in of the pulverized soil is nearly completed. And, finally, level the whole nicely with the hoe.

Having finished this row, take up the line and fit it again, 6 inches distant; open the trench in the opposite direction, and set the plants in the same manner. This completes the planting.

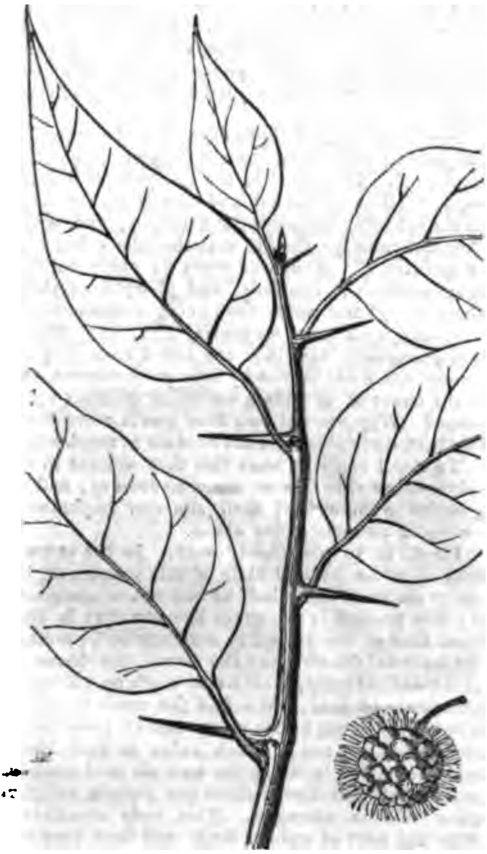

Fig. 3.—Osage Orange, (*Maclura aurantiaca.*)

The Osage Orange grows wild in Arkansas and Texas. It is said to have been first introduced into our gardens, from the Osage tribe of Indians. In its natural state, according to Mr. Downing, "it grows luxuriantly, about thirty or forty feet high, with a wide and spreading head." The leaves resemble those of the orange, are very glossy, and present a most beautiful appearance, on which account it was first propagated as an ornament. Within the last few years it has been largely adopted for hedges, and in the middle and western states has done well. We have seen fine hedges of it in the neighborhood of Cincinnati, Ohio. Whether it will prove sufficiently hardy for the northern and eastern states, has not yet been demonstrated; but its success, so far, entitles it to further trials. Joel Rathbone, Esq. has a fine hedge of this plant, four years old, on his place near this city. It has not been injured by the frost, except the first winter, when it was killed down to within a few inches of the ground. Mr. A. J. Downing observes—

> The Osage Orange, when treated as a hedge plant, has many excellent characteristics. It is robust, vigorous, and long-lived. It sends out a great abundance of branches, bears trimming perfectly well, is most amply provided at all times with stout thorns, and its bright and glossy foliage gives it a very rich and beautiful appearance. It grows well on almost any soil, and makes a powerful and impenetrable fence in a very short time. Though it will bear rough and severe pruning, and is therefore well adapted for farm fences, yet it must be regularly trimmed twice every year, and requires it even more imperatively than other hedge plant, to prevent its sending out strong shoots to disfigure the symmetry of the hedge.

It is propagated by seed and by cuttings of the roots. A writer in the *Cincinnati Gazette* says—

> The best way to start a hedge of this plant, is to procure some of the seeds, of which about 7,000 are comprised in a quart. Scald them in water near the boiling point, and plant them in nursery beds, in good soil, and keep down the weeds the first year. In transplanting, the plants should be set about 12 inches apart. These facts will enable any person to form a correct judgment of the number necessary to plant in any given length of hedge. The seed should be sown early in the spring, and if not preferred to sow as above in a nursery bed, to be afterwards transplanted, it may be sown where the fence is wanted, by preparing the ground, and using a garden line to get the fence straight, covering the seed lightly with fine earth. When the plants are up, they must be kept clean and well hoed; and in the fall they should be headed down to within two or three inches of the ground.

The seed may be had at $1 per quart, and plants at $6 to $8 per thousand.

Principles of Manures.

Analytical Laboratory, Yale College,
New-Haven, Conn., Jan. 7, 1850.

Editors Cultivator—Having mentioned in my last, the subject of manures, as that which should be the topic of this and succeeding communications, I now proceed to direct the attention of your readers to the true signification of the word manure in its various applications. This may seem to many a very unnecessary labor, but I hope to convince them that it is not.

Under the grand head of manures, have, in these modern times, come to be included a great variety of substances, which may be divided into three classes—animal, vegetable and mineral manures. In mentioning any of them, we mean something that of itself, or by its action upon other bodies, imparts fertility to the soil, increasing, in other words, its ability to bear good crops. More than this, every farmer who reads attentively, has learned that the efficacy of a manure consists in its supplying to the plant, directly or indirectly, certain substances which it needs to promote its growth. Manures are in fact, food for plants.

This is a great advance in knowledge, but is not, by any means, all that ought to be known. As we proceed a step or two further in our inquiries, we find that plants are differently constituted, and that manures have an almost infinite variety in their composition. The subject thus becomes difficult; but we are enabled at once to draw the important conclusion that different plants require different manures; that the manure which highly benefits one crop may even injure another.

We are thus led naturally to the conviction that some classification of fertilising substances is necessary—that some rules are demanded by means of which the farmer can at least approximate to the value of any manure of which he knows the composition or the leading ingredients. He understands, for instance, that guano is valuable, and knows what are its effects upon his crops; but is he aware upon what, in the guano, those powerful effects depend? Could he, if an unknown substance equally rich in its composition were presented to him and the names of the elements which it contained given, say that it was worth much or worth any thing as a manure? I feel quite sure from my own experience, that the majority of our farmers, notwithstanding all that has been written on these subjects, would have to answer this question in the negative.

It is for such reasons that I am about to attempt a plain statement of some points connected with this important branch of agricultural knowledge, in the hope of making them clear and intelligible to at least a part of your readers.

I have already mentioned three great divisions—animal, vegetable, and mineral manures. In the two first of these, are two classes of bodies—those which burn away by heat, called organic bodies, and the ash which remains after burning, consisting of mineral or inorganic bodies; of these last, the latter division of the three, the mineral manures, are entirely composed. The inorganic part in animal or vegetable manures, is usually quite small; as they are of course derived from the death and decay of plants and animals, it follows that in those forms of organised existence, the organic part also, as a general rule, predominates. Although then in these manures, the inorganic part is small, it is enough to supply the wants of the plants, by furnishing the materials for both classes of bodies which they contain, the combustible and the incombustible, the organic and the inorganic. The mineral manures, on the contrary, can for the most part only nourish and increase the inorganic part of plants, and are consequently more limited in their application.

It is next of importance to know what are the substances thus furnished by the various classes of manures. All the organic part of plants and animals, in the immense variety of their forms, shapes and sizes, and consequently all of that part in the numerous manures which are employed by the husbandman, contain but four substances, named Carbon, Hydrogen, Oxygen and Nitrogen. The first of these, Carbon, is a solid, of which charcoal, black lead, &c., are examples; the others are gases or kinds of air. This is one of the most striking facts connected with the advance of modern chemistry, that all forms of organised life should be ultimately resolved into these four bodies, excepting alone the small proportion of ash which most of them contain. This ash, the inorganic or mineral part of plants, animals and manures, consists of more numerous substances; they form, however, not by any means a long list. They are potash, soda, lime, magnesia, iron, silica, chlorine, sulphuric acid and phosphoric acid, nine in all. There are one or two others occasionally included, but they do not seem to be of much importance to to our cultivated crops.

I mention these simply for the purpose of giving their names; to describe the appearance and properties of each would be foreign to my present purpose. Any farmer who wishes to become acquainted with them personally, can easily find directions which will enable him to accomplish his desire. Their names and numbers being now given, in my further remarks reference may be made to them without causing the reader to feel as if he were on entirely unknown ground, or among utter strangers.

From the connection in which the organic and the inorganic parts of plants, animals and manures were placed, the nature of the relation between the two former and the latter, will now be plainly seen;
the farmer will understand that to his knowledge
the fact that manures are the food of plants, he
added the names of the substances which constit
that food.

This is an important step gained, but it o
plunges us into fresh difficulties as we come to e
mine the diverse effects of the various fertiliz
substances which are considered valuable, and wh
indeed experience has proved beyond a questio
be so. In looking over accounts of results obtai
by using different manures of known composit
the farmer perceives great variation in their ap
rent effects. A small quantity of guano for insta
is more powerful in enriching the soil and haste
the growth of plants, than a whole load of ordin
manure, weighing probably fifty times as mu
This is a very striking difference, and leads
comparison as to the composition of the two manu
It is found first, that the barn-yard manure cont
a large quantity of water which of course dete
rates so much from its value; second, on exam
tion of the dried residue in each, it is found to
sist of the same substances. These are not, h
ever, in the same proportions. In the guano,
find that *ammonia* and *phosphates* are the lea
ingredients; in the barn-yard manure, carbon an
lica.

Here is a tangible difference, but the most do
ful feature in the case to the farmer, has yet t
explained. He points to the analyses of plants
says, "silica in the ash and carbon in the org
parts are most prominent substances, and why
they not equally valuable with the others that are
in quantity?" Ammonia owes its value to the
trogen which it contains, and phosphates thei
their phosphoric acid, they being combination
that acid with lime, magnesia, iron, &c. Nitr
and phosphoric acid then are added most largel
guano, silica and carbon by farm-yard manure.
is the cause of so wide a variation in effect upo
crops? Why are the two first worth more tha
two last, since plants do not contain so much of t

To this I reply at once that they are not in t
selves more valuable or more necessary, and
proceed to show that their superior importan
owing to circumstances alone.

First, as to phosphoric acid. In the straw
husk of grain we find little of this substance,
the grain itself fully half of the ash is compose
it; it is present in the grain because that is th
tural food of the animal in which must be cont
the material for building the bones, the frame-
of the animal body, these being made up chiefly
phosphate of lime. We find the same thing
true of nitrogen; in the straw and all those pa
plants that are not of much value as food, the
little of it, but in the grain and all food consi
particularly nutritious, there are certain subst
quite rich in nitrogen. This body constitu
principal part of animal flesh, and thus food
contains much of it is remarkably nutritious be
it supplies this material toward the increase
body. Ammonia is important in manures, be
it is a chief means of furnishing nitrogen t
plant.

This brings us to the point which I wish
press. When we examine a soil, we find th
fertility or barrenness, depends on the presen
absence of the various substances named above
one of them is wanting, the capacity of the s
bearing good crops is greatly diminished. The
likely deficiency in long cultivated soils, is
phosphates, and in bodies containing *nitrogen*
new soils, these *two classes* are as a general

smallest. Every farmer knows that it is ordinarily the *grain* which is sold off, while the *straw* is returned as manure. The grain, as we have seen contains most of the phosphates and of the nitrogen, so that of course these bodies, originally small in quantity, are soonest exhausted. Here then, we have the reason for their efficiency. The carbon, oxygen, hydrogen, lime, potash, silica, &c., are each and all equally indispensible to the plant in its various parts, but they are much more abundant, there being comparatively few situations where the plant cannot obtain a supply of all or nearly all. The scarcity of the phosphates, and of ammonia or other bodies containing nitrogen in the soil, gives these substances a high relative value, and causes manures which contain them in large quantity, to produce such a marked effect.

My desire to make this subject plain, has extended this letter somewhat unreasonably, but if I have made myself understood, I am sure that no farmer will have found clear explanations upon such an important branch of his profession, very tedious.
JOHN P. NORTON.

The State of Agriculture in Europe.

Professor Johnston's Address,

Delivered at the Annual Exhibition of the New-York State Agricultural Society, at Syracuse, September 13, 1849.

GENTLEMEN:—One of the first lessons a European has to learn after he has landed on the shores of this new world, is to dispossess his mind of all those associations, rich and rare, with which the history of past ages has connected the names of remarkable places. In passing through New England it was my fortune to stop at towns and villages called by names long familiar to my ears—the sounds of which seemed to say, "in a few hours or minutes you will arrive again at your own home and hearth."

But in travelling from Albany to this place, I have met with people fresh from Troy—I have come through Utica and Rome—and from the lips of children have heard of other mighty cities which our earliest European lessons clothe in the hoar of remote antiquity, and illuminate with the glory of immortal deeds. In the desire thus to connect your new towns with the recollection of famous actions, I would read an admiration of the actions themselves, and secret aspirations after similar renown.

In the old world I have just left, there exists an ancient Syracuse, rich in all those bounties of heaven, which especially favor the husbandman—a genial and sunny clime—clear, blue skies, balmy air, and never failing dews—a soil fertile in oil and wine, and abundant in corn, almost beyond belief.

Thousands of years ago, when no Saxon or Celtic foot, not even that of the roving Northmen, had yet trodden the American shores, this ancient Syracuse was the capital of a kingdom of six millions of souls; and though it had so many mouths of its own to fill, the produce of its teeming soil left still a large surplus for exportation. An energetic people, comparatively free—unbroken in spirit by frequent wars, by foreign conquerors, and by the degradation and oppression which afterwards beset their domestic hearths—availed themselves to the utmost of the bounties of nature, and by patient industry made their country the "*horreum Romanorum*," and in the language of Livy, "*populo Romano, pace ac bello fidissimum annonæ subsidium.*" Now cast down and degraded, the successors—scarcely to be called the sons of the same people—languish in comparative indolence; and though the bounties of nature are ever fresh and new as in its palmiest days, there are few countries in which agriculture and the arts of life are in a more debased condition than in modern Sicily.

But time, which has wrought this melancholy change, has caused others more cheering to happen too. It may be, that amid the ruins of old Syracuse its ancient fires may still live, on some future day to be lighted up anew, and more successfully, into a steady and enduring flame, which the foot of despotism shall never again be able to trample out. But however this be, it is gratifying to me to see—as it must be to you—that in a new country, peopled by a new race, a younger Syracuse has sprung up, emulous of the worth and glory of the ancient—nourished by free institutions—carried forward by the untiring energy of the Teutonic blood—above all, emulous of the agricultural renown of the Syracuse of distant times, and by the application of more mind and knowledge, to a less exuberant soil in a less favored clime, bent on creating a new granary of the nations, an unfailing western store-house to a great and growing people.

It is a happy omen to me, coming among you for the first time, that I should meet to discourse with you upon scientific agriculture, in a city which recalls the vast fertility of the plains and slopes of Sicily—may the modern name like the ancient, descend to after times, associated with ideas of rich cultivation and prolific fields of corn!

It is not without anxiety, as you will suppose, that I appear for the first time before a large trans-atlantic audience. But though you are American born, gentlemen, your faces are familiar to me. They tell me you have Scotch and English hearts, and I believe I may throw myself confidently on your kind indulgence.

I cannot presume to address you on the general importance of agriculture; its fundamental connection with the welfare and power of every state; the estimation in which it has been held in all ages and among every cultivated people; the natural proneness of man to till the soil; the pleasure with which the most talented men, and the highest in station, have always looked forward to the time when leaving business and profession and the cares of office to younger men, the small farm should alone employ their quiet leisure; nor upon the greater attention and respect which this art and its cultivators every where demand, and are every where receiving. These topics are familiar to you, and you are too rich in native talent to require a stranger to address you on generalities like these.

Nor does my very recent arrival in the United States, entitle me as yet to speak from my own observation upon the existing condition of agriculture on this side of the Atlantic. I have selected, therefore, as the subject of my present address, the existing condition of agriculture in Europe.

There are two very different ways in which I might bring this subject before you. I might illustrate in the abstract, the amount of practical and scientific knowledge which Europe possesses in regard to each of the departments of rural economy, which its climate enables it to prosecute. Taking the methods of the best practical men, and adding to these the knowledge of those most skillful in theory, I might present to you a picture, every detail of which was true, but the effect of which as a whole, would be to convey to you a most exaggerated idea of the actual condition of the art—even in Great Britain, where both in theory and practice it is supposed to be best understood, and most skillfully carried into operation. Or I might take you from country to country, and show you as we passed hastily along, the character of its rural population, the excellencies or defects of its cultural practices, the condition of its arable soils, the qualities and treatment of its cattle, and generally what is doing by governments and people in each country for the improvement of the rural arts. I should thus set before you a series of pictures, true, not only in detail, but in their general effects upon your minds, though not partaking of those broad and comprehensive views, which a sketch of European Agriculture, as one whole, would be expected to present.

I propose, to some extent, to follow both methods. After a brief outline of the state of practical agriculture in the leading countries of Europe, derived chiefly from my own observations, I shall endeavor to give you an idea of the position in which agriculture as an art now stands—of what is doing to advance it—and especially of the aids which science is now lending to the practical economics of rural life.

SWEDEN.—Commencing in the north of Europe with the Scandinavian peninsula, I would remark that in Sweden,—especially since the accession of the late king, Carl Johan, better known by the name of Bernadotte—much attention has been paid to agriculture. The improvement and increase of the flocks of sheep for the growth of wool, the introduction of better breeds of stock, of newer implements, and of an improved rotation of crops—have successively received much attention; but of late years the great force of the people has been expended on the drainage of the lakes and marshes with which the country is so plentifully studded over. The agricultural societies of the provinces, in conjunction with the Academy of Agriculture in Stockholm, have devoted much pains to what may be called the arterial drainage of their several districts; and though the more refined method of improvement, known in Great Britain by the name of *thorough drainage*, has not as yet been any where introduced, it is only just to the energy of Sweden to say that no European people, in proportion to its natural resources, has done more during the last twenty years in the reclamation of improveable land from the dominion of overflowing water.

Further advances are also secured by the translation, especially from the English, of the best works on scientific agriculture, under the auspices of the Academy of Agriculture, and by the establishment of agricultural schools and model farms, one of which each province is expected in a few years to possess. Thus in Sweden, as in all other countries, the period of improvement by mechanical means will be succeeded by one of improvement by chemical means—the nature and economical application of which latter means, books and schools will have taught, when the time for more generally applying them shall have come.

RUSSIA.—In Russia, agriculture as a whole is in a very imperfect condition. Here and there, especially in the neighborhood of large towns like Moscow and St. Petersburgh, laboriously and skilfully cultivated fields may be seen, while herds of improved Swiss and short horned cattle are carefully raised on the domains of the rich nobility. The Emperor also, who knows well the importance of this art to the strength and prosperity of his dominions, sets an example to his subjects by the efforts he makes to introduce a better system of culture among the serfs on the Imperial estates, by the establishment of schools for the instruction of farmers in art and experimental science, and by the maintenance of model farms upon the appanages of the crown. But Russia, nevertheless, is half a wilderness. Millions of acres of perpetual forest cover rich soils which there are no hands to till. The value of an estate is measured not by the number of acres it contains, but by the number of souls which live upon, cultivate, and are sold along with it. As in the first clearings of a North American wilderness, where land is comparatively worthless, the soil is cropped till it is exhausted, and then new land is subjected to the plow and exhausted in its turn. In no country of the world, with the exception of Northern America, is there so vast a field for the useful emigration of agricultural settlers, as in the mighty Empire of Russia. But language, and religion, and political institutions, oppose barriers which the Saxon, and I may say the Teutonic races generally, feel themselves unable to overcome.

GERMANY.—In order to obtain a correct opinion of the agriculture of a country, a man must not only view the country with his own eyes, but his eyes must be taught both what to look for, and how to look for it. The reports of travellers who are unskilled in rural matters—the educational institutions of the country itself—and even its agricultural statistics, are all unsafe guides where a really correct appreciation is desired of its t.ue position in reference to this important branch of social economy. This observation is illustrated by the actual condition of the several branches of rural economy when compared with the state of agricultural instruction, and with the attention that has been paid to statistics in the different kingdoms of Germany and France.

SAXONY.—In Saxony, a country greatly favored by nature in the character of its soils, the chief attention of the great landholders and of the government, has been long directed to the improvement of the breed of sheep, from which the celebrated Saxon wool is obtained. This state exhibits generally a very different appearance from the neighboring country of Bavaria. In passing from the latter kingdom to the former, you "seem to pass," says Mr. Royer, "from the desert into the land of promise." "Two-thirds of the rich proprietors in Saxony," he observes, "cultivate their own properties, and have established an order, neatness, and method, which, though far from agricultural perfection, you seek for in vain in France."

WURTEMBERG.—In the Kingdom of Wurtemberg, where the instruction at the agricultural school of Hohenheim and elsewhere, is better organized, and at this moment more famed, than in any other part of Germany, and where in fact, the art of culture as a whole is the farthest advanced, the general cultivation is described by Mr. Royer as being melancholy, and, at a distance from the capital, very different from what the eulogies of authors had led him to suppose.

BAVARIA.—In Bavaria we find an imposing array of institutions and means of instruction specially provided for the rural community, which are fitted to impress the superficial observer with a high idea of its agricultural condition. As in Wurtemberg, there is a central school of agriculture. There are also Chairs of Rural Economy in the Universities, and more than twenty Chairs of Agriculture in the Seminaries and polytechnic schools of the provinces, besides a general Agricultural Society, counting more than 8,000 members. These facts convey the impression of much zeal on the part of the government; much interest in agriculture on the part of the people; and an advanced state of the art of culture in the kingdom generally. But "the miserable aspect of Bavarian agriculture would lead one to suppose that all these means of encouragement are very inefficacious." (Royer.)

The schools are badly organized or conducted. The great landowners are indifferent on the subject, while the miserably defective condition of the roads and other means of internal communication indicate, that even the government which has organized all the formal apparatus we have mentioned, it is not itself alive to the most fundamental element of agricultural progress.

PRUSSIA cannot boast either of its practical agriculture, or of its system of agricultural instruction. It is a proof of how very little has in past ages been done in the way of teaching the rural population the principles of the art of culture, that Prussia should so long have derived an undeserved celebrity from the existence of a private agricultural school at Moeglin, established in 1806, and conducted till his death in 1819, by the distinguished Von Thaer. After his death, the school he had founded was made a Royal Academy, and is still in existence. It contains at present only twenty pupils; and even in Von Thaer's time it never contained more than thirty-four. In the much praised primary schools of Prussia, a little instruction in gardening is the only teaching which bears an immediate relation to the future occupations of the rural population.

In the nature of its soils, indeed, which are sandy, light enough to be blown by the winds, and apparently almost sterile, Prussia has much to contend with. This is especially the case in its most ancient and central Dutchies. Westphalia and the Rhenish provinces are naturally richer, and are also more advanced and better cultivated.

Besides, until the revolution of the past year, the burdens of servitudes upon land, of a feudal kind—and of which in the New World you have no examples, except a few of a milder form in the seignories of Lower Canada—were so onerous and so unequally distributed, as greatly to retard the development of its agricultural capabilities. The state of the roads and other means of communication also, as in Bavaria, and the scarcity of large towns, have concurred with other causes, in retaining the agriculture of Prussia in a very backward condition.

HOLLAND.—If from the uplands of Germany we descend to the lowlands, and especially to that country which includes the islands at the mouths of the Rhine and the Scheldt, and the low country stretching northward to the Zuyder Zee and the Dollart, we shall find reason to stay our steps and to consider calmly the cause, and purpose, and extent of the wonderful system of canals and embankments which the kingdom of Holland presents.

In a sketch of European agriculture, indeed, Holland is deserving of distinguished mention. Above all other European people, the Dutch, though slow, have been patient and persevering in their agricultural labors. Occupying a few more elevated and fertile alluvial spots, in the midst of downs and bogs, and marshes and lakes, and the endless ramifications of many rivers, they have century after century, struggled against nature. Draining marshes, pumping out lakes, damming back seas and rivers, reclaiming bogs, fixing by art the wandering downs, interlacing their country with an interminable net-work of gigantic canals;—by such labors as these, they have extended the productive surface of their country, secured its possession, and made its natural riches available. And what makes their praise the greater and more deserved, is the constant watchfulness and care which the retention of their country demands. Exposed on the average of the last thirteen centuries, to one great sea or river flood every seven years, the possession of the land they have gained is never secure. Lying below the actual level of the sea, large tracts of it are only preserved by the huge dykes that surround them,
and to maintain these dykes requires unceasing vigilance, an
large yearly expenditure of money.

And though in past times the Hollanders have done great engine
ing works, yet the spirit of the sires is not degenerated in their liv
sons. The draining of the Haarlem lake, now in progress, is
boldest mechanical effort ever yet made in the cause of agricult
in any country, and promises to add no less to the material wea
than to the engineering and constructive fame of the United P
vinces.

I feel a pleasure in thus adverting to the impression made upon
own mind, during my various tours in Holland, in the presence
meeting of agriculturists, many of whom may inherit from the
ly settlers of New York, a portion of that industrious and pa
blood, which makes every end sure to the determined and pers
ring man.*

I may mention as an indication of the early desire of the D
authorities to promote the diffusion of Agricultural knowledge,
a very old regulation prescribes attendance on agricultural lec
as a necessary branch of study to the established clergy of Holl
And though in that as in many other countries, men of the old s
at present act as a drag on the progress of scientific agriculture
enlightened and zealous men are at work in various parts of the
therlands, and advance is gradually being made. The name of
der ought especially to be mentioned as most eminent among th
entific men of Holland, not only in advancing pure science, b
advocating and promoting its general applications to the agricu
of his native country.

ITALY.—From Holland turn for a moment to Italy, in which
try drainage works somewhat akin to those of the Dutch, for
proudest monuments of which even that famed land can bos
the victory which persevering intelligence can achieve over t
ficulties and seeming hostility of nature.

Did time permit, I might present to you a most interesting h
cal sketch of the changes in agricultural condition and cap
which that country has undergone from the period of the a
Etrurians to the present day. And to the man of science,
sketch would be the more interesting, from the circumstance
all the changes that have taken place, the physical and geo
structure of the country, has exercised a far more promine
permanent influence, than either the remarkable industry an
structive skill of the Etrusean inhabitants, or the hostile incurs
its foreign invaders.

To the rich alluvial plains of Lombardy, of which rice, and
corn, and wheat and abundant milk, are the natural produ
and to Tuscany, in which something of the ancient industry a
severing practical skill of the old Etrurians‡ still survives, th
cultural inquirer must proceed to see the bright side of Italia
vation.

But it is in Tuscany chiefly that he will find the most inte
evidence of the conquering power of the living mind over the
cles of physical nature. The Maremme of Tuscany and the
es of the Val di Chiana, like the Campagna and the Pontine
of the Roman dominions, have long breathed forth that pes
malaria which, like the summer exhalations of the sea isla
river mouths of your Southern states, carries on its wings fe
lingering ague and frequent death. It is one of the great
triumphs of engineering skill, applied to the promotion of
dustry—second only to the gigantic labors of the Dutch, of
have spoken, and to the artificial drainage of our English fe
the terrors of the Maremme have in a measure been bridled
the Val di Chiana, in so far as it lies within the borders of T
has been drained and dried—and that cheerful health and ric
prevail over large tracts of country, in which it used to be
certain death to linger.

Among a Republican people, I, who owe allegiance to a
tional Monarchy, may be permitted to name to you Leopold
of Tuscany, as the principal author of all this good. What
opinions on other matters may be, we shall all, I am sure,
this, that those men are great and worthy to be honored, wh
been gifted by God with large means and great opportunitie
use of those means and opportunities for the glory of God
good of their fellow creatures—who, instead of war and
and suffering and death, promote peace and plenty, and he
the multiplication and prolongation of human life—the mor
of whose life inculcates the truth that man's proudest triu
not those he achieves over his fellows, but those which he g
himself, or by which he compels the unwilling powers of
minister to the material comforts of mankind—who encoura
will unite instead of distract, what will cement instead of d
nations of the world—as that broad belt of water which la
the shores of your country and mine, instead of separating,
mer years, now binds us together more closely than if the s
tinent contained us.

As the promoter of such ends for twenty-five long yea
country of Tuscany, the name of Leopold the First will
unpleasantly even in your republican ears.§

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* For a fuller account of the *Rural Industry and Dra*
Holland, which I wrote for the Edinburgh Review, see vol.
of that work.

† This must be considered an admirable provision, ena
pastor to advise in regard to the temporal pursuits, no less
spiritual affairs of his flock.

‡ To those who are desirous of obtaining the means o
clear notions of the physical structure of Italy, of its clima
tions in the times of the ancient Etrurians, and of the indu
as well as the social relations of this people, I venture to re
a perusal of Denis's *Cities and Cemeteries of Etruria.*

§ For an account of the reign of Leopold, see Napier's
History, vol. vi, and for a detail, with drawings, plans and
the engineering operations by which the Maremme were

FLANDERS AND BELGIUM.—In Flanders, both Belgian and French, you are probably prepared for an admission on my part, of great agricultural skill and success. I am compelled, however, to confess my own impression to be, that a great portion of what has been written upon Flemish husbandry, partakes of the character of a romance.[*] The cultivators of Belgian Flanders have the merit of raising fair crops from certain tracts of poor and sandy soil, of husbanding and applying manures so as to keep such land in culture, and of skillfully varying their crops so as to prevent a premature exhaustion. But no knowledge of the general principles of agriculture is widely diffused among them. The improvement of wet and of heavy clay soils, except by open ditches, is almost unknown. Improved implements and thorough drainage, and modern modes of manuring, and some small instruction at least in the elements of science as applied to agriculture, have still to be introduced among them, before they can rank in general knowledge or in skilful prac-practice with the farmers of Scotland or England.

And, indeed, in Belgium as in France, the progressive subdivision of property opposes a growing obstacle to that general amelioration of agricultural practice, which the wants of a numerous people, and the progress of knowledge demand. Where the average extent of properties and farms over a whole province is already reduced to about an English acre, we cannot look for the introduction of any of those improvements which demand the purchase of new or comparatively costly implements, the rearing and feeding of multitudes of stock, the employment of hired labor, or generally the application of capital to the land. As in Ireland, the subdivision or morcelling of the tillage farms, has already, in whole districts, been carried to the starvation limit. As into Ireland, the potato failure brought with it into Belgian Flanders, famine and disease, and large emigration,—and notwithstanding all that wise governments can do, it is to be feared that on the recurrence of similar visitations, similar social evils will in both countries again re-appear.

FRANCE.—In France I need hardly inform you that practical agriculture is far in arrear. In Normandy, the mixture of Teutonic blood has probably some connection with the superiority of the husbandry of this province as compared with most of the other parts of the kingdom. It is certain at least, that notwithstanding the many efforts made by persons in power to promote the introduction and adoption of better methods, the general farming of La Belle France advances with comparative slowness.

This country indeed presents another striking instance of the small connection which may exist between the existence of extensive means of agricultural instruction, provided by the central government, and the practical skill of the rural population.

In 1843 there existed in Frane one hundred and fifty-seven agricultural societies—six hundred and sixty-four agricultural committees—twenty-two model farms, some of which had schools attached to them—and fifteen schools and chairs of agriculture and agricultural penitentiaries. In the early part of 1849, under the auspices of the republican government, and as part of the plan of M. Fouret, then Minister of Agriculture, twenty-one farming schools had already been opened—a national agricultural university was about to be established on the farms in the little park of Versailles, and a hundred and twenty-two agricultural societies, and three hundred minor institutions, had participated in the funds voted for the encouragement of Agriculture.

Though it is unquestionable that a country may attain a high rank in agriculture without the aid of formal agricultural schools—provided, as in Scotland, other early mental training is placed within the easy reach of the rural population—and that in spite of numerous schools, if other obstacles intervene, the cultivators of a country may lag far behind;—yet both common sense and experience show that of two nations of the same blood, placed otherwise in the same circumstances, the one which teaches the principles of agriculture in its schools, will exhibit the most productive harvests on its fields; and that as in England and Scotland now, a time will come in the agricultural history of every country, when old means and methods will fail to maintain the rural community in a flourishing condition, and when every new means of fertility which advancing knowledge can supply, must be made generally known, and become generally employed. Such are the simplest and most common sense arguments in favor of agricultural teaching—the inutility of which might be argued with some show of reason, from the comparatively small progress yet visible among the fields and farmers of France and Bavaria.

The agricultural statistics of France, which the government has collected and published in great detail, would supply many interesting subjects of reflection, were I at liberty to dwell longer on this part of Europe. I may only mention—as pregnant with thought and instruction in regard to the condition, the food, and the general mode of living of the rural classes of France—the fact, that the number of conscripts who are rejected on account of deficient health, strength and stature, is constantly on the increase; that forty per cent are turned back from this cause; and that though since 1789 the standard has been three times reduced, as large a proportion of the conscripts is below the required height, (now five feet two inches,) as ever.—Rubichon. Such facts as this show how closely the discussion of agriculture is connected with that of the most profound social evils.

SWITZERLAND.—To Switzerland, I only allude as one of those countries in which the influence of natural intelligence and a fair share of early instruction, has been brought to bear most successfully on the improvement of the soil, and especially of the breeds of stock which are best adapted to its peculiar dairy husbandry. Those advances which require the application of capital and science, such as thorough draining and special manuring, are there, however, still unmade; and it will probably be many years, before, in these respects, the cultivators of the Swiss valleys and mountain slopes, can closely imitate the present improved practices of the British Islands.

SPAIN.—The agricultural condition of Spain suggests melancholy reflections. The central table lands of this country[*] are reckoned among the first wheat growing districts in the world. The culture is rude and imperfect. The soil is scratched with a primitive plow, and is seldom manured, yet the returns are said to be prodigious, and the quality of the grain excellent. But where nature does much, man too often contents himself with doing little. Amid all this plenty, the peasant is miserable. He lives in a cabin of baked mud, or in burrows scooped out from the friable hillocks, ignorant of the luxury of furniture, and barely possessing the necessaries of life. The want of roads and of means of easy transport, makes his produce almost worthless, so that a comparatively spare population exists, and much wretchedness in the centre of fertile fields and a land abundant in corn.

We sometimes think ourselves unfortunate to have been born, or to be doomed to live where clouded suns impart a lessened light and heat; or where the frosts of winter bind up for many months the hardened earth. Yet in such climes, man more really lives, and exercises a truer dominion over inanimate things, than where tropical skies appear to prepare for him an unceasing enjoyment. Where mind and mental energy are dormant, he only vegetates or exercises his brute passions. Where by perpetual struggles he subdues the adverse elements, bends circumstances to his will, forces a copious abundance from an unwilling soil and in spite of inclement seasons—there he most truly lives, and amidst his hardships enjoys life most; there refreshing sleep visits him with her balmiest breath, and in the power of mind over matter, which his success displays, he brings out more clearly the claim of man to a likeness with Him who is all mind, and to whose slightest intimation all matter bends.

GREAT BRITAIN.—In striking contrast to the case of Spain, is the agriculture of the Island in which I was born, and from which so many of your forefathers have come. I need not tell you of our uncertain climate—our fickle sky, our frequent rains, our late frosts in spring, our early frosts in autumn, the cold winds and temperate suns of our most favoring summer, the mists and fogs that settle over us at every season of the year. I only remind you of these things, and ask you to contrast with them the large crops we can reap, the high rents we can pay, the poor lands we have enriched, the local climate we have ameliorated, the wide wastes we have subdued beneath the plow, the northern districts we have tamed down to the production of wheat, the large population we have reared, and in ordinary seasons are still able to feed, and—amid all the croakings and complaints of individuals and classes—the vast amount of material comfort and of intellectual elevation which the island exhibits. How much kinder, on the whole, the Deity has really been to us than to prolific and sunny Spain; how much better our fortunes as a people, how much happier our individual lot!

PRACTICAL IMPROVEMENTS IN GREAT BRITAIN.—Among the greatest of those practical improvements *in the treatment of the land*, by means of which British agriculture has been advanced to its present condition, I may mention:

1st. *The alternate husbandry*—a judicious rotation of crops. In this walk Flanders was probably the earliest among modern European countries to make decided and important advances.

2d. *The introduction of thorough drainage.*—To a certain extent and in a certain way, under drains have been made in almost every country of Europe, and are at least as old as the time of the Romans. But the necessity and almost universal profit of the system as it is now understood and practiced, was first demonstrated in Scotland, and owes its general introduction to Mr. Smith, of Deauston.

3d. As the complement of thorough drainage, the introduction of *deep and sub-soil plowing*. These practices have renovated shallow worn out soils, by bringing up new materials; have opened a passage for the roots to descend deeper in search of food; and have provided a more ready outlet of surface water into the drains below.

4th. *The judicious and continued application of Lime*—according to principles now beginning to be generally understood. When applied without the requisite knowledge, or without regard to future consequences, the use of lime has been, and will still be, one of the most ready means of exhausting the most fertile soils.

5th. *The use of Bones*—in various forms, as an application to land in various conditions, and for the growth of various crops.

6th. Generally, what is called *high farming*, comprehending:

a. The culture of green crops extensively.

b. The making of rich home, and the purchase of valuable foreign manures of various kinds to a great extent.

c. The rearing and feeding of improved breeds of stock, for the conversion of one form of produce into another, which meets with a readier market, or is otherwise more profitable.

d. The custom of *full feeding*, both for plants and animals, from early youth to full maturity.

It is the characteristic of this kind of farming, that it spares no reasonable expense—in implements, in manures, in labor—as all experience has shown that a liberal treatment of the land, makes the land liberal in return; and that to the stingy farmer, the land is most niggard of her crops.

7th. *The introduction of lighter and better contrived implements*, of machines to economise labor, and of horses having a quicker step.

Such are generally the practical methods or processes by which British agriculture has been advanced to its present condition.

Memorie sul Bonificamente delle Maremme Tuscane, by Fernando Tarlini, Florence, 1838.

[*] *L'Agriculture Pratique de la Flandre*, par M. J. L. Van Aelbroeck, Paris, 1830; and *Memoire sur L'Agriculture de la Flandre Francaise et sur l'Economie Rurale*, par J. Cordier, Paris, 1823.

[*] The two elevated plains of New and Old Castile, and that of La Mancha, separated from each other by the granites and metamorphic rocks of the Sierra Nevada, are composed of a white limestone, occasionally covered with the drift of other rocks. These plains are burned up in summer, so as to yield no grass till the October rains fall, but they yield magnificent crops of wheat. (Sir E. Head.)

In connection with this improved condition of British agriculture, and the practices it involves, you will excuse me if I advert for a moment to one aspect in which British agriculture may be regarded, which at the present moment is most vitally connected with the interests of the English farmer, and may be neither uninteresting nor uninstructive to you.

Were an intellectual foreigner, previously unacquainted with Great Britain, with the character of its people, or with its social condition, to be informed regarding this country, that though occupying only a small and thickly peopled corner of Europe, shrouded for many months of the year in fogs and mists, seldom and briefly visited by the fervid sun—never, I may say, by such a sun as now shines upon us—and raising its own grain crops with cost and difficulty to feed its rapidly increasing inhabitants—were he to be told that the Legislature of this country, in which the agricultural body is the predominating interest, had thrown open its island harbors to all comers, and trusting to superior energy, perseverance and skill, had invited even the most fertile and favored regions of the globe to a free competition in their own grain markets, fearless of the results;—apart from all fiscal theories or political views with which my profession and pursuits forbid me to intermeddle, I ask you, if such a foreigner, so instructed, could fail to admire the open boldness, to look with respect on the resoluteness of such a country, or to long for an opportunity to study, not only the character and habits of its people, but the modes of culture practiced by them, with so much success, in a region so unfavored by nature.

And were he actually to come among us, it would be easy for him having started from the Land's end, to proceed from one warm hearted and hospitable farmer to another, till the Pentland Firth arrested his course, and all his journey long he might converse with cultivators of ardent minds, full of practical and general knowledge, who in most unpromising circumstaances refuse to despond, and while they see so much every where around them awaiting the hand of the improver, will not let slip the anchor of hope; who differing widely, perhaps, in politics, and as to the policy of certain fiscal regulations, yet feel alike that to resolute men the conquest of the stubborn land is as sure as the dominion of the sea; that new difficulties only demand new exertions and that new energies are equal to meet new emergencies.

On quitting the British shores, after such a tour, that foreigner would carry with him a true impression of the flower of English and Scottish Agriculturists, and his first admiration of the resolute firmness, and his estimate of the skill of the island farmers, would be confirmed and strengthened by his actual survey.*

In other parts of the world I might fear lest my audience should accuse me of over exalting, by such language as this, the character of my own country and its people. You, who feel so just a pride in the noble land you possess, will know how to make allowance for my pride in mine. But indeed whatever can be truly said of British farmers, may, I begin to feel, already be said, with almost equal truth, of the farmers of your Northern states. Of the west and south, I cannot as yet, from personal observation, speak. In Nova Scotia and New Brunswick, two younger provinces, I have seen a picture of what Maine and New Hampshire, and Massachusetts especially, have been; and in the gradual conquest which persevering labor has in these states achieved over drifted rocks and hungry gravels, and sandy barrens and ungenial swamps, I discover the resolute spirit still living of those men who centuries ago, dared to cross a then wide and little known sea, in search of new and freer homes, and whose descendants now till alike the soils of the Old England and the New. Time has not impaired the energy and enterprise of either; I believe I may say it has left their hearts unchanged too.

And now you are ready to ask me, what those, who in Europe are most in advance in the practice of the rural arts, look forward to as likely to help on agriculture still further. In what especially, you will inquire, do we of Great Britain trust, who have thrown down the gauntlet to the farmers of the world? These questions I shall answer by drawing your attention briefly, to what may be regarded as the characteristic or living feature of the agriculture of our time —what you no doubt expect me briefly to speak of, the direct applications, namely, of natural science to the several branches of rural economy.

The main purposes for which natural science is applied to rural economy, are—

First. To explain the reasons of practices already adopted, or of things already observed, and to supplant old and defective by new and better usages.

Second. To establish general principles, by means of which, a short cut is provided for the unlearned, to the knowledge, practical and theoretical, we already possess. A single principle explains and thus recommends or forbids many practices, according to the circumstances of the soil, place, or season.

Third. To enlarge our actual knowledge by new discoveries susceptible of practical application.

On these several objects of natural science, in its application to agriculture, it would be out of place at present to dilate. It will be sufficient if I briefly draw your attention to some of the general results, in reference to rural economy, at which science has already arrived.

With this view I might draw my illustrations from any one of the many different branches of natural knowledge. I might select for example:—

1st. The general relations of *Physical Geography* to the art of culture—such as

a. The influence of broad seas and of great lakes and rivers, tides, of sea currents, and of prevailing winds, on the capabilities a country, and the practices and profits of its cultivators.

b. The influence of mountain elevations and depressions, of hi table lands and of low level plains—or

2d. The general indications of *Geology* in regard to the fertility a country, the branches of husbandry to which it is best adapted, a the means by which its fertility may be best promoted.

The Geological Map of this State, and the volumes of the Natu History Survey, afford abundant illustrations of this science to pra tical agriculture—or

3d. The relations of *Meteorology* and *Botany* conjoined—such a

a. The adaptation of certain plants to certain climates—of sug cotton and rice to warmer; of buckwheat, and Indian corn a wheat, to warmer and drier; of rye, barley and oats, to colder a more uncertain climates.

b. The nature of rust, smut, mildew, the maize brand, &c., a the circumstances of local climate most favorable to their appearan —or

4th. The relations of *Geology* and *Vegetable Structure* conjoined such as

That certain plants and soils are mutually adapted to each oth because of the special structure and natural habits of the plants, a the physical characters only of the soils.

The valley of the Mohawk, for example, is remarkably prolific Indian corn, and raises comparatively little wheat—while the dist of Syracuse produces wheat abundantly, and is less favorable corn. So in Great Britain and Ireland, we have our turnep and b ley soils, distinguishable readily by the practical man, from wheat and clover soils. These differences are independent of c mical composition, and are not to be explained upon chemical p ciples. They are dependant upon the special relation which structure and natural habits of the plants bear to the physical char ters of the medium in which their roots are made to grow—or

5th. The general indications of *Geology* and *Meteorology* conjoi —such as

The relations of the nature of the rocks, of the soil, and of the of rain taken together—

a. To the necessity for under drainage, and the means of effect

b. To the necessity for artificial irrigation, and the easiest mod obtaining a supply of water for the purpose—or

6th. The general relations of *Zoology* and *Animal Physiolog*

a. To breeds of domestic animals, and to the preservation of purity.

b. To the rearing, feeding and general tending of stock.

c. To the agency of animal life in fertilizing the soil.

d. To the attacks of insects upon our cultivated crops—or

7th. The general indications of *Chemistry*—such as

a. That a fertile soil, in addition to various organic compo contains at least eleven different mineral substances.

b. That plants contain, usually, or in most of their parts, the g or number of the same mineral substances.

c. That the animal, as a whole, also contains them, but distrib throughout its several parts in a manner different from that in w they are found, either in the plant or in the soil.

d. That the plant standing, as it were, between the soil and animal, prepares for the latter both its organic and its mineral f

e. That an intimate and beautiful relation exists between the the plant and the animal—or between the living and the dead t of nature—or

8th. The general indications of *Geology and Chemistry* conj —such as

a. That certain Geological formations are especially rich in of the mineral substances found in and required by plants, and duce soils which with special treatment will prove fertile and p ble to the cultivator.

b. That others are especially defective in some of these subst and form soils which are naturally unproductive.

c. That some abound in all the kinds of mineral matter plants require, and yet yield soils which are naturally unfertile

I. RELATIONS OF GEOLOGY TO AGRICULTURE.

From any one of these general topics, I might select beauti amples of the close bearings of science upon profitable farming time does not permit me to illustrate in detail any one of the g relations to which I have referred. A few observations, how in reference to the special applications of Geology and Che will neither detain us long, nor prove, I believe, generally u esting.

In reference to Geology, I could have wished to point out the very close economical connection which recent discoverie established between practical geology and practical agricul how the manufacture and abundance of valuable manures, ample, is actually dependant on the progress of geological disc I must be content, however, with a brief allusion to the geol the United States.

There are few countries, indeed, which more clearly tha own, show the relations which geology bears to agriculture i branches. Your wide prairies are naturally distinguished fro vast forest lands, by the character of their soils, and these ag the geological structure of the regions over which they exte from which they are generally derived. The broad treeless calcareous marl, or rotten limestone—called the prairie or can country—which crosses Alabama in an east and west dire owes its natural nakedness to the dry, waterless, chalky d which for a depth of hundreds of feet form the uppermost ro the country; and the tenacious, soapy, unctuous quality of t with which the carriage wheels of travellers in that State, weather, become familiar, is owing to the same cause.

So your zones of differing timber, as you ascend from the swamps of the shores in your southern states, across the eocene and cretaceous beds to the mica slate, gneiss and granite of the Appalachian chain, are the consequences and indications of diversities in geological structure. The swamp willow, the cypresses, (*thyoides* and *disticha*) the swamp hickory, the green palmetto, the tall magnolia, the red maple, and the cotton wood of the lowest swampy spot—the hickory, oak, magnolia, beech, walnut, tulip tree, and holly, of the dry, alluvial bluffs—the perpetual pines of the tertiary (eocene) sands—the naked prairie of the cretaceous marls—and the mixed oaks, hickory and pines which appear on the primary rocks—all these zones of different timber indicate the natural connection of the vegetation of a district with the nature of the rocks on which it rests.

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* For two recent estimates of the condition of Agriculture in Great Britain, see—
Weecherlin. *Ueber Englische Land-wirthschaft und deren Anwending auf Land-wirthschaftlihe Verhaltnisse insbesondere Deutchlands. Stuttgard and Tubingen*, 1845. And
Colman's *British Agriculture*. London and Boston, 1848.

* Lyell's Second Visit to the United States, pp. 42, 80.

Nor are these geological relations of vegetable life without their influence on the daily movements of your shifting population. I have elsewhere shown how directly the movements, the natural expansion I may call it, of our first class farmers in Scotland, is not only influenced but actually, as it were, prescribed, by the geological character of the district in which they have been brought up and to which they intend to move.* So it is among you. "Those who go southwards from Virginia to North and South Carolina, and thence to Georgia and Alabama follow, as by instinct, the corresponding zones of country. The inhabitants of the red soil of the granitic region keep to their oak and hickory; the 'crackers' of the tertiary pine barrens, to their light wood; and those who inhabit the newest geological formations in the sea islands, to their fish and oysters."†

And to this illustration of a fact, which may be proved, I believe, by observtion in every country of the globe, Sir Charles Lyell, adds a sentence, from which I am sure you will at once draw an important, practical lesson. "On reaching Texas, all these different classes are at fault, because the cretaceous strata in that country consist of a hard, compact, siliceous limestone, which defies the decomposing action of the atmosphere, and forms table lands of bare rock, entirely unlike the marls, clay and sand, of the same age, in Alabama."

The tillers of the red land, of the pine barrens, of the marshy prairies, and of the sea island swamps, are equally at a loss when they migrate to a country of which the soils and surface differ from all they have left. And how is this? Because they have no familiarity with those general principles of chemical science on which all culture on all soils depends—because, if they wish to continue the same kind of tillage, and on soils similar to those they have left, they have not such a knowledge of the general principles of Geology as would enable them at once to say, to this or to that country, I must go, for there alone am I likely to find them.

In my own country, I have been accustomed to press upon the agricultural community the importance of such geological knowledge to them, because of the numerous colonies we possess in all parts of the world, and because of the swarms of emigrants we yearly send off to subdue and people them.‡ But to you whom I now address, who already occupy, or in connection with kindred blood are destined to subdue and people nearly half a world—how much more important must such knowledge be! Your westward movement will continue for many generations, and how much surer will the way to wealth be to your hardy pioneers, if they have been taught in their early homes, not only only how to choose land, but where to look for the kind they wish to buy, and how to till it best, whatever it may be, when it has come into their possession.

I ought, perhaps, to apologise for saying so much on this subject. To you, who have expended so much public money and so large a measure of talent in developing the geological structure and natural resources of this and other states, it may appear presumptuous in me to urge further upon your attention, what you have shown that you already so fully appreciate. I may plead as an excuse, that in a country where all action originates, and all power centres in the masses, a brief discussion of the subject before a great meeting like this, may help new listeners towards a proper general estimation of the practical value of science—and that what I have said will not fail in being useful to scientific agriculture, if it convince a single undecided voter in this great commonwealth of the worth of those aids which science offers you, in developing the resources of the soil.

II. Relations of Chemistry to Agriculture.

Permit me now to say a few words on the subject of chemistry, in its relations to agriculture.

The special applications of this science, as many of you are already aware, are far too multiplied to admit even of enumeration. Of the practical ends which have been more or less perfectly attained by means of chemistry, I might mention such general ones as these:—

1st. In what *general* exhaustion consists, how it is produced, and how it may be repaired?

2d. In what *special* exhaustion consists, how it is brought about, either naturally or artificially, and how it is to be corrected?

3d. What plants, in general require to make them grow well?

4th. What manures ought to contain, to be generally serviceable; what, with a view to special purposes, they ought specially to contain; and how they are to be artificially prepared?

But such topics are too general and indefinite to make a sure impression on the mind of the practical farmer, in the brief moments I have spent in enumerating them.

I mention further, therefore, such special points as the following:—

1st. How to bring crops to earlier ripeness in late and elevated districts.

2d. How to reduce the straw producing tendency of the land.

3d. How to hasten or promote, or to push forward laggard, yellow, and stunted vegetation.

4th. How to strengthen the straw of your grass crops, where they are liable to be laid.

5th. How to fill the ear and make it larger, where long culture or natural poverty has reduced its size.

6th. How to improve the deficient feeding quality of turnep, and other root crops, when grown on mossy land.

7th. To quicken the organic matter in dead, deaf, or peaty soils, and make it available for the nourishment of plants.

8th. To prepare artificial manures, which shall nourish any crop on any available soil.

9th. To promote growth on *slow*, and to retard it on *quick* soils.

10th. On newly brought up subsoils, and on trenched land, what manures ought to be used, and why.

11th. Why a rotation of manures, as it is called by practical men, is necessary, and where.

12th. That the use of lime to a certain extent, and in a prudent way, is necessary to the highest fertility.

13th. That saline and nearly all other manures, do more good upon light and open, than they do upon stiff and close soils, and why.

14th. How to economise the consumption of vegetable food, and to adapt it to the purpose for which an animal is fed.

16th. How to prevent the disease called *fingers and toes* in turneps and other roots, and how to render mildew and ague equally rare.

To do these and many similar things economically, skilfully, and with more or less success, are among the practical ends to which chemical investigations have already led us.

They also supply answers to many practical questions, such as:—

1st. Why cabbage crops so greatly exhaust the soil, and how such exhaustion is to be repaired?

2nd. Why tares cut green exhaust the land, and give inferior wheat?

3d. Why tares are seldom good after crops of clover?

4th. Why lime produces a more marked effect on one soil than it does upon another?

5th. Why one variety of lime is more useful generally, or in particular districts on particular farms and fields, than another?

Of special points and questions, I could enumerate many more, in regard to which chemistry may be said to have been, or to be capable of becoming, of obvious money value to the farmer. Even to such of you, however, as have not much attended to this subject, the above examples will sufficiently indicate both the kind of connection which exists between practical agriculture and practical chemistry; and the kind of uses to which such scientific knowledge may hereafter be put, in advancing the important art, which it is the first wish of this great Society, and the individual interest of many of its members most zealously to promote.

Limits of Human Skill.—But in dwelling upon and illustrating what is already in the power of man, and what he hopes to attain in reference to agriculture through the aids of science, I would not forget to acknowledge how very limited his knowledge is, and how feeble his capacities after all.

A mysterious fungus attacks the potato, and for years spreads famine and misery, and discontent and depression, among millions of industrious farmers.

A minute fly, season after season, hovers over our wheat fields, and from entire provinces and states almost banishes the cultivation of our most important grain.

A long continued drouth, such as half a century past has scarcely seen, dries up our meadows and pastures, and drives the farmer to his wits end, to obtain winter sustenance for his necessary stock.

Such things as these ought to prevent us from boasting of our knowledge, and to enforce upon us that piety and humbleness of spirit which rural occupations themselves so naturally foster—while at the same time they should not restrain us from any effort or inquiry by which the evils themselves may be mitigated or removed.

It is possible—nay it is almost within the bounds of a reasonable expectation—that the same intellectual research which has given us dominion over the proud waves—has made out the laws by which hurricanes are regulated—has already almost freed us from their most fierce influences—and has forced the fiery lightning to descend harmlessly from heaven—that the same research may finally free us from the visitations of the fungus and the insect, and may place the dreary drouths of summer under reasonable control. Such hopes we may entertain, not as sources of pride, but as stimulants to exertion—for in so greatly rewarding the past exercises of our intellectual powers, the Deity obviously intends still further to excite us to study and extract good from the living and dead things of nature, over which he has given us a general dominion.

Obstacles to Progress.—There are, however, in every country, certain obstacles which oppose themselves to the progress of scientific agriculture, as a branch of knowledge, or to its practical application in the improvement of the soil.

I do not refer to those physical or local obstacles of climate, elevation above the sea, low prices, distance from markets, and so on; but to those social and class obstacles which, in so many places, and in so many ways, interfere not only with the rapid extension of our knowledge, but with the diffusion of what we already possess as to the application of science to the rural arts. I may enumerate as belonging to obstacles of this kind:

1st. The aversion to theory, as it is called, which is so generally professed by practical farmers in most countries of the world. Rash and hasty theorising in regard to agriculture, it is right to reject; the error lies in confounding with such theory every thing that does not appear to bear directly upon the more common operations of the farm—as if chemistry, or the chemist for example, could be of no use to the farmer, because he does not interfere with the handling of the plow—or with the shape and management of the drill machine, or the harrow.

2d. The small amount of talent hitherto in all countries considered necessary to fit a man to become an excellent farmer. This not only lowers the general education and attainments of the agricultural class, and the estimation in which they are held—but it unfits them, as a body, readily to appreciate the labors, or to listen to the counsels of men of science, however prudent and practical they may be.

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* See an article in the Edinburgh Review for March, 1849.

† Lyell's Second Visit to the United States, p. 110.

‡ See the Author's *Elements of Agricultural Chemistry and Geology, Fifth Edition*, p. 616.

3d. The special deficiency, among all grades of the agricultural community, (in England among landlords, among tenants and among laborers,) of any instruction in the elementary parts of those branches of knowledge by which the principles of agriculture are especially illustrated.

4th. The extreme sub-division of the land, which you may not see in this country for many generations, but which already exists as a great evil in some of the countries of Europe. It prevents the use of improved implements, and therefore the encouragement of agricultural mechanics—because the farmer is too poor to buy anything but the merest necessaries. It prevents also the purchase of manures, natural or artificial, to any extent—the employment of paid labor in farming—and generally all those forms of improvement which demand an outlay of capital, or to which the occupation of a considerable breadth of land is a necessary pre-requisite.

5th. An obstacle peculiar to your country, and to its present transition state—and it is really a serious obstacle to improvement—is the feeble local attachment by which the proprietors of the more newly settled districts are bound to their farms. This appears in the fact that so many of your farms are for sale. Few families have yet become so attached to their locations as to be unwilling to sell them, if a fair offer be made. The head of the family trusts to his own skill to do better elsewhere for all his household, with the money for which they may be sold. This state of things will pass away as age creeps over your commonwealths and institutions, but in the meantime it operates as a serious hindrance to the expenditure of money in embellishment or in costly improvements, which might possibly not enhance, in a proportionate degree, the value of these properties in the market.

I merely mention these social obstacles, for although some of them do, as I am informed, exist to a certain extent in this State of New York, yet I would rather express my high opinion of the much good I have found among you, than appear to detract from your just deserts, by discovering and commenting upon wants and defects which in your hurry to get forward, you have as yet scarcely had time to discover, much less to supply or remove.

ENCOURAGEMENT TO AGRICULTURAL SCIENCE IN THE UNITED STATES.—Of the good I see, for example, I may specify the enlightened desire exhibited by your several *State governments*, to promote the applications of science to your home agriculture, as it is strikingly shown in the numerous surveys and reports which they have caused to be made and published, in respect to the geology and agricultural capabilities of the several parts of the Union. In this respect your State of New York occupies a most distinguished position, and its inhabitants will no doubt reap from their well directed exertions, a rich harvest of deserved fruit.

Again—this great Agricultural Fair, the implements and stock here exhibited, the countless numbers who have entered the show yard to see them, and who now surround us—impress upon a foreign visitor, the obvious usefulness and efficient management of your Agricultural Societies, how much they are doing, and how zealously they are supported. To those at a distance, who cannot look upon you with their own eyes, your annual publications speak. I have myself been both interested and instructed by the former volumes of the Transactions of your Society, and I have heard them, in a public meeting in Scotland, most highly spoken of, and favorably contrasted with the published proceedings, even of the Highland and Agricultural Society of Scotland. It gives me pleasure to express my opinion, that the volume for the present year is not only equal to its predecessors, but contains matter highly creditable to the Society, and useful to the advancement of scientific agriculture.

Farther—The interest which, as individuals, you take in the promotion of agriculture, by the acquisition and application of new knowledge, may be gathered from two circumstances—*first*, from the establishment and liberal endowment of chairs of science in connection with agriculture, by private parties, in two, at least, of your state universities—a liberality at once most patriotic and most judiciously applied; and *second*, from the causes which led to the recent visit to Europe of your countryman, Mr. COLMAN. Him we were led to look upon as a deputy from the individual farmers of this and the adjoining states, to the farmers and agricultural assemblies of Great Britain—for it was your individual encouragement and subscriptions, I believe, and those of your societies, which induced and enabled him to come among us. As your deputy, he was every where received—every where kindly, I believe, as so kind-hearted a man deserved to be—and every where with a desire to give him the fullest information on every subject that might be useful to you.

Gentlemen, in the minds of some of your countrymen whom I have met, not so I hope in yours, a wrong impression exists as to the feelings of my countrymen towards you as a community, or as individuals. We do not envy or regret your rapid growth and prosperity as a people—we are proud of it. We do not dislike you individually—we are predisposed, rather, to see good in you and to like you. Whatever sour men on either side of the water may say, you may rest assured that there is a corner in almost every heart at home, which especially warms towards the North American, whether from the Colonies or from the States, and a warm seat at many a fire side, if he will come and occupy it. It may be old fashioned, gentlemen, but we all still think at home that blood is thicker than water, and if any of you doubt it, we beg you, like Mr. COLMAN, to come among us, and honestly and frankly to try whether it is so or not.

If I were asked to give a special reason why a knowledge of the scientific principles of agriculture is more necessary among you than among any other existing people, I would mention the great extent of your territorial dominion, and the varied soils, climates and cultures, which your people encounter, as your dominion over the forest and prairies extends. When you take this fact in connection with an other, which is no less familiar to you, that a general set of your population, like a great moving tide, is carrying them towards
the south and west—so that the old tillage and crops of one year ar
often deserted by the mover for a new form of tillage, and the cul
ture of new crops in the next—you will see how useful to the shif
ing agriculturist himself it must be, and how beneficial to the whol
community, that he should possess some degree of familiarity wit
those principles, not only of Geology to which I have already mad
especial allusion, but of Chemistry and Botany also, which shall en
ble him in whatever circumstances of soil, of climate or of tillag
he is placed, to make the most of the advantages he happens to po
sess—to overcome most easily and most economically the difficulti
he may have to encounter—and to employ at once his head a
hands with skill in bettering his local condition.

As an agricultural people, you possess many advantages over t
nations of Europe. You are not old enough to have acquired d
trict and state prejudices, which are difficult to overcome, and whi
in many parts of Europe, long oppose, successfully, the importati
of improvements from abroad.

I may mention, as a most intelligible illustration, the introduct
of implements imported from other countries, which in Europe i
very slow process. The swing plow of Scotland, for examp
has made its way into many districts of England, has been ext
sively introduced into some parts of France, Holland, Sweden,
even into Poland and Russia. But into Germany, where atta
ment to the old tools and methods is so very strong, it makes its
very tardily. And I advert to this instrument—this fundamental
strument, I may call it, of the practical farmer—because I fi
mentioned to your credit, by a German writer, that the swing plo
has had a much more willing and ready reception among you
among his own countrymen, and that Germany has already rece
many excellent swing plows from America.* I have seen
irons of Scottish manufacture, in use in various parts of N
America. It is said that plow irons in considerable quantities
now exported from the States in considerable numbers to Engl

Whatever is good in other countries, you are very much in a
dition to adopt at once. You have, as I have said, fewer old f
to break through, old methods to abandon, old tools to lay aside
old rules and regulations to abolish. Above all, as proprietors
work every man for himself and for the profit of his family.
only are feudal superiorities, servitudes, serfdom and tithes, unk
among you, but even rents are not, as with us, to be made
two dark days of every year. What ought to stand in the way
of your rapid progress in this most important art?

Another great advantage possessed by the agriculturists
country, you will both understand and estimate. As a natio
commence your agricultural career at the point which we ha
tained. The eminence which we have reached after long clin
you start from. You have the benefit of all our knowledge a
perience, and—unwearied with previous labor, or satisfied wi
idea, as too many of our farmers are, that you have already
very much—you must progress beyond what we have at pres
tained to. And with the intellect and energy you inherit, yo
and will progress. It cannot fail indeed to prove a great bles
mankind at large, that so many new minds, unfettered by
straints of prejudice or partial legislation, or conventional
are now directed in this country towards the varied arts of
life. Especially must intellectual exertion on your part, in ref
to any of the arts of life, benefit us in Great Britain—whom
mon parentage, individual ties of blood, and a unity of speec
nect, and whom now the broad Atlantic, more than bridge
almost brings together again into a common home. Wh
think, reacts upon our thoughts; what you speak, insensibly
our speech; and your literature and ours, are read and ha
influence in both countries. What each discovers sooner b
property of the other, than in the case of nations who speal
ent tongues; and a step in advance on either side of the
carries the arts of the other side along with it. We are not
perhaps I might say we are eminently unselfish—in wishing
become agricultural improvers. But of all the arts, it may
more truly of agriculture than of any other, that it is of no
The producer of the common staff of human life, ought i
perfection, to be the common property of all. In rivaling e
in our endeavors to push forward this highest art of life, Bri
America will be striving only which can do most for the hun
And if we in Britain should benefit hereafter by the adva
are destined to make,—beyond what you have obtained fro
will enable us only the more speedily to aid in diffusing a kn
of these advances among the other nations of the globe.

What is the moral of this discourse—what its immediate
tion to you whom I have the honor to address?

Is there improvement any where—let it be seen among
there agricultural progress any where—you ought not to
Are there means of bettering the mode of culture any wh
possess the same. Is there greater knowledge any wh
within your reach. Is there energy and determination a
—these qualities are inherited in as great strength by you
other people. Is the climate favorable any where for spe
of culture—you possess all climates, and may take a lea
farming book of every country. Is knowledge necessary
—it is so among you; if not because of an over-crowde
cause of a constantly moving, and at present rather retrog
cultural population.

And if in consequence of its progressive tendency,
blood of the Anglo Saxon shade, is destined, as some belie
quer and possess this vast continent from sea to sea; it is
wish and purpose of the Deity, that such possession shou
a source of happiness both to the ruling and to the ruled, a
of furthering at the same time, that general advancemen
man race which all philanthropists so ardently anticipate.

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* *Ueber Englische Landwirthschaft von A. von Weckher*
gard, 1845, p. 81.

But this conjoined happiness and progression demand the constant aids of augmenting knowledge. In your western migrations, you must bear with you, to plant on your new soil, the arts and sciences and daily discoveries of the east; and thus will population and civilization extend together to the shores of the wide Pacific.

And among the branches of knowledge which you will most usefully carry with you, those which relate to the arts of rural life, will, above all others, contribute largely to the temporal welfare of your spreading people. That which we know in England, you soon learn to master and apply here; and what is known in the Empire State, ought, in like manner, to diffuse itself hence over the vast dominions of your great confederacy.

Though I have considered it my duty, in conformity with your request, to lay before you the observations I have put together in the present address—it would be presumptuous in me, after what I have seen in this show-yard, and in this city, to suppose that any thing I could say, would materially hasten the progress of agriculture among you, or turn you into any better paths than those you have already begun to follow. If any man wishes an evidence of what you are in energy, and what you are capable of in action, let him come to Syracuse, and look around him. It was brought as an action against the ancient Romans, that they made a country desolate, and called that peace. It is the nobler praise of the great modern Republic, that you find a country desolate, and cover it with people—a wilderness, and you plant it with fertile farms—furnished with rare wigwam encampments, and you strew it over with splendid palaces and great cities. Energy, discernment, constructive talent and administrative skill, must all be united to accomplish such results, so rapidly, so safely, so securely. I thank you for inviting me to come among you, that I might see all this, and might enjoy the gratification which the sight of progress of such a kind imparts. It will be to me a source of future satisfaction, if I shall be able, on reflection, to believe that my visit to your country has in any way contributed to the further or more safe advancement among you of that pursuit, which is the surest support of nations—whether in the Old World or in the New.

New-York State Agricultural Society.

Annual Meeting.

The New-York State Ag. Society convened in the Assembly Chamber, at 12 o'clock on Wednesday, the 16th Jan., 1850—the President not having arrived, on motion of B. P. Johnson, Esq., Hon. John P. Beekman, ex-president, was called to the chair.

B. P. Johnson, Esq., Secretary of the Society, read the annual report of the Executive Committee, detailing the operations of the Board for the past year, which was listened to with great interest. Their labors have been, in every respect, eminently successful, and it is believed that the influence and usefulness of the society is rapidly extending, not only over our own state, but to most of the other states.

The report, on motion of Mr. Cheever, was accepted, and ordered to be embodied in the Transactions of the Society.

L. Tucker, the Treasurer of the Society, read his annual report, showing these general results:—

Receipts.		
Bal. in the treasury, Jan. 17, 1849,	$433	55
Sale of mortgage given for money previously loaned,	2,000	00
From the State Treasury,	883	23
For memberships at annual meeting,	97	00
Interest on investments,	350	00
Temporary loan,	593	61
Receipts at State Fair at Syracuse,	8,144	55
John A. Taintor, Hartford, Conn., for extra prize on Sheep,	100	00
Sundry other sums, amounting to	72	50
	$12,674	44

Payments.		
Debts of 1848,	$2,037	15
Premiums,	4,397	66
Salary and travelling expenses of the Secretary, and salary of Messenger,	1,410	88
Expenses connected with the State Fair,	792	79
Repayment of loan,	600	00
On account of Library and Museum—Repairs of Agricultural Rooms—Incidental Expenses, &c., &c.,	1,334	66
	10,573	14
Balance in Treasury, Jan. 16, 1850,	2,101	30
	$12,674	44

On motion of Mr. Enos, the report was accepted, and ordered to be printed with the Transactions.

On motion of Mr. T. C. Peters, it was ordered that a committee of three from each judicial district be appointed, to report the names of officers of the Society, and to recommend the place for holding the next Annual Fair.

On motion of Mr. T. Smith, the delegations from each judicial district, were directed to select their respective members of the committee.

The several district delegations then retired to select their committees, which duty having been performed, and the names reported, the nominations were confirmed.

Mr. Pardee, before this committee, desired to present a resolution in accordance with instructions from his county, urging that two fairs be held next year—the State to be divided into two districts with reference to them. He stated that the county Society of Wayne had adopted this plan, and with great advantage, and desired to see the same thing by the State Society—and chiefly because the tendency would be to keep up the interest in these fairs, by holding them every year both in the eastern and western parts of this state.

Mr. Cheever suggested that this could not be done without an alteration of the Society's constitution—and perhaps the assent of the Legislature. It would also be equivalent to dividing the Society into two. But, in any event, it was a matter with which the committee just appointed had nothing to do, unless the Society had the power thus to divide itself, and should do so. If that was done, the committee should know it before acting.

Mr. Pardee explained that the proposition was not to divide the Society, or to have two organizations—but on the contrary, that its union should be continued, and that under one organization two fairs should be held each year.

Gen. Veile moved a reference of the matter to the committee just appointed.

Mr. Sherwood suggested a special committee—it being a matter of considerable interest at the west.

Mr. T. C. Peters moved to lay the whole subject on the table, which was agreed to.

Recess until 4 o'clock, P. M.

Four o'clock, P. M.

Mr. Enos, of Madison, from the nominating committee, reported the following persons as officers of the Society for the present year, and they were unanimously agreed to, by ballot, by the Society:—

President—E. P. PRENTICE, Albany.

Vice Presidents—Ambrose Stevens, New-York; Lewis G. Morris, Westchester; Anthony Van Bergen, Greene; Z. C. Platt, Clinton; J. B. Burnet, Onondaga; E. C. Frost, Chemung; Oliver Phelps, Ontario; Nelson Van Ness, Chautauque.

Corresponding Secretary—B. P. Johnson.

Recording Secretary—J. McD. McIntyre.

Treasurer—Luther Tucker.

Executive Committee—B. B. Kirtland, J. J. Viele, H. Wendell, A. Thompson, Henry Wager.

The same committee, to whom was also referred the question of selecting a suitable place for holding the next Cattle Show and Fair of the Society, reported in favor of holding it at Albany, if the citizens furnish funds sufficient to erect such buildings, &c., as the executive committee may require for the purpose of the Society.

Mr. Butterfield's resolution relative to holding a four days' fair, was referred to the executive committee.

A communication was then read from James Cowden, Esq., American Consul at Glasgow, informing the Society of a fair to be held in London, for the exhibition of the industry and arts of all nations, during the summer of 1851, and expressing the hope that American arts, manufactures, &c., &c., would be well represented.

Also, a resolution by Mr. Johnson, inviting the agriculturists, manufacturers, mechanics, &c., to prepare for the exhibition, and offering the aid of the Society, so far as their powers extended, to facilitate those who might be desirous of competing at the exhibition.

Mr. Peters suggested that this Society send to the said fair all the various samples of Indian corn raised in this country.

Mr. Baldwin hoped the Society would not confine itself to the samples of Indian corn raised in the country, but send other articles to this great gathering of nations. He hoped, not only that articles would be sent, but that the Society itself would be represented there. He spoke of this as being the first meeting to which the mother country had invited us, and trusted all parts of the Union, especially the Empire State, might be well represented on this great and glorious occasion.

A motion was made to refer the subject to a select committee, but was subsequently withdrawn, and the entire matter, toge her with a resolution by Mr. Butterfield, recommending to the executive committee to offer a premium of $100 on such article as takes a premium at said fair; was,

On motion of Mr. Foote, referred to the executive committee with power.

A communication was received from Dr. Lee, of the Washington Agricultural Rooms, in relation to distributing agricultural tracts. Referred to the executive committee.

Mr. Peters offered a resolution, directing the executive committee to ask of the Legislature, in addition to their annual appropriation, the sum of $250 for improving the library of the Society, and $150 for the Museum. Adopted.

Mr. Smith offered a resolution directing this Society to memorialize Congress for the establishment of an Agricultural Bureau.

The resolution was ably sustained by Mr. Baldwin, and adopted.

Mr. Cheever gave notice of a resolution to amend the Constitution of the Society in such a manner as to retain ex-officio Presidents of the Society upon the executive committee.

Upon this announcement of a notice, a protracted debate sprung up, and was continued until the adjournment.

The Society again convened at the Capitol in the evening, and listened to an excellent lecture by Prof. Johnston, on the connection of Chemistry with Practical Agriculture.

Thursday, Jan. 17.—The Society met at their Rooms, at 10 o'clock, when the reports of several committees were read, premiums paid, and a variety of other business transacted,—after which they adjourned to meet at the Capitol in the evening.

At half-past seven, the President, Hon. John A. King, called the meeting to order. After the reading of some reports not previously made, the President delivered his valedictory address, which was listened to with great interest; and at its conclusion the President elect, E. P. Prentice, Esq., in a very appropriate manner, tendered the Society his thanks for the honor conferred upon him.

Hon. J. P. Beekman offered a resolution tendering the thanks of the Society to Mr. King for his able and instructive address.

Also to the other officers of the Society for the able discharge of their duties during the past year.

Mr. Cheever offered a resolution tendering the thanks of the Society to Prof. Johnston for his eloquent address at the State Fair and for the able and interesting series of lectures recently delivered.

Mr. Johnson offered the following resolutions, which were unanimously adopted:

Resolved, That the members of this Society cherish with deep respect the memory of the late Henry Colman—a gentleman long and well known for his active zeal in the cause of Agricultural improvement, and especially for the many interesting and instructive effusions of his pen on the various branches of rural economy.

Resolved, That we sincerely sympathize with the family of Mr. Colman in the painful bereavement they have sustained; and that the Secretary forward to them a copy of these resolutions.

On motion, it was agreed that the Executive Committee meet at the Society's Rooms at 10 o'clock on Friday morning.

The Society then adjourned.

AWARD OF PREMIUMS.

Essays.—Connection of Science with Agriculture—adapted to Common Schools—Prof. John P. Norton, of Yale College, Conn., $100.

History of Indian Corn—Chas. Lewis Flint, West Roxbury, Mass. Silver Medal.

Farms.—E. S. Salisbury, Jefferson county—second premium, Silver Cup, $30—3d. Helim Sutton, Seneca county, Trans.

Dairies.—1. Horace Clapp, Houseville, Lewis County, Silver Cup, $50—2. John Holbert, Chemung, Silver Cup, $30.

Butter.—Horace Clapp, Lewis county, Joseph Cary, Albany, John Holbert, Chemung, and Hector C. Tuthill, Cayuga county,—each a Silver Cup of the value of $15—2. Noah Hitchcock, Homer, Silver Cup, $10.

Winter Wheat.—Adam Clarke, West Dresden, Yates county, 42 bushels per acre, on 50 acres, $10.

J. J. Thomas, Macedon, Wayne county—experiment as to the ripening of wheat, $5.

Spring Wheat.—Geo. R. Eells, Oneida county, 30 bushels per acre, $15—2. H. B. Bartlett, Paris, Oneida county, 31 bushels per acre, $10.

Rye.—David Conrad, Brunswick, Rens. county, 36 bushels per acre, $15.

Indian Corn.—1. E. R. Dix, Vernon, Oneida county, 88 bushels per acre, $20—2. Peter Crispell, Jr., Hurley, Ulster county, 80 bush. per acre, $15.

C. W. Eells, Wm. Baker, Augustus Flint, for samples of seed corn, vol. Trans. to each.

Barley.—1. E. M. Bradley, Ontario county, 50½ bushels per acre, $15—2. E. R. Dix, Vernon, Oneida county, 48 bushels per acre $10—3. Benj. Enos, De Ruyter, Madison county, 47 bush. per acre, $5.

Oats—Peter Crispell, Jr., 80 bushels per acre, $15—2. E. M. Bradley, $10.

Buckwheat.—1. Robert Eells, Oneida county, 33 bushels per acre, $10—2. Wm. Baker, Lima, Livingston county, 29 bushels per acre, $8.

Peas.—E. S. Salisbury, 27 bushels per acre, $10.

Rapalje & Briggs, Rochester, for samples of seed peas, Trans.

Potatoes.—1. Best quality, H. B. Bartlett, 252 bushels per acre, (Carter's,) $15—C. W. Eells, 246 bushels per acre, $10—3. Nelson Van Ness, Chautauque county, 218 bushels per acre, $5. Greatest quantity per acre, Martin Springer, Brunswick, Rens. county, 316 bushels, $15. Aaron Killam, Mexico, Oswego county, 13 fine varieties from seed, $10.

Ruta Baga.—Joseph Hastings, Rens. Co., 964 bush. per acre, $10

Carrots.—1. E. Risley & Co., Fredonia, Chautauque county, 941 bushels (60 lbs. per bush.) on half an acre, $8—2. Same 864 bushels, $6—3. L. B. Langworthy, Rochester, 576 bushels on half an acre, $4.

John S. Gould, Albany, for fine specimens of cauliflowers and squash, $3.

Fruits.—*Apples.*—J. C. Hubbard, Troy, Mich., Trans. and Thomas' Fruit Culturist.

L. P. Grosvenor, Pomfret, Ct., Trans. and Downing's "Fruits."
R. H. Brown, Greece, Monroe county, Trans.
J. H. Watts, Rochester, Trans.
J. D. Campbell, Rochester, Fruit Culturist.
E. P. Prentice, Albany, Downing.
H. A. Underhill, Macedon, Wayne county, Trans.
R. J. Pardee, Palmyra, Downing.
Hiram Foster, Palmyra, Fruit Culturist.
Herman Wendell, Albany, Downing
J. W. Bailey, Plattsburgh, Trans.
B. Hodge, Buffalo, Trans.
S. Morgan, Albany, Fruit Culturist.
Chas. Ross, Washington county, Trans.
Elwanger & Barry, Rochester, Trans.
Wm. Rogers, Wayne county, Downing.
Dennis Clark, Wayne county, Trans.
Robert Patterson, Perry, Wyoming county, Fruit Culturist
J. J. Viele, Troy, Fruit Culturist.
Pears.—S. Miller, Rochester, Fruit Culturist.
Grapes.—R. J. Pardee, Downing.
Joseph Cary, Albany, Fruit Culturist.

☞ If you would not be forgotten as soon as you are dead, either write things worth reading, or do something worth writing.

Answers to Correspondents.

Canary Grass.—G. N., Hobart, Del. County, N. Y. This grass will perfect its seed in this latitude. It is usually sown in drills, with a machine, about one foot apart, requiring from sixteen to twenty quarts per acre. It is an annual, and the seed is sown at the same time of sowing spring grain, and ripens nearly at the same time, or rather later. The yield is from twenty to thirty bushels per acre. The straw is eaten by cattle and horses.

Berkshire Hogs.—B. S., Greenwich, N. J. There are no full blood Berkshires in this neighborhood, and we are unable to say where they can be had.

Colza.—N., Bridgeton, N. J. We have heard of no experiment with this plant in this country. If any one has tried it, we should like to know the results.

Stump Machine.—J. F. C., Grand Rapids, Mich. The description of the article to which you refer, (*Cultivator* for 1846, p. 116,) evidently contains a mistake in regard to the length, which is there given as "two feet." We regard it, however, as a matter of little consequence, as the cut gives a definite idea of the form of the article, and it is obvious that it should be of such dimensions as will suit the size of the stumps. We have seen such things used of various sizes. It is only stumps the roots of which are considerably decayed, that can be taken out in this way; but for such the contrivance answers well.

Seeding land to Grass.—S. W., North Easton, N. Y. On lands of medium dryness, we have used, for one acre, eight pounds or four quarts red clover, eight quarts timothy or herds grass, and from half a bushel to a bushel (according to its cleanness) of red top.

The White Snow-Bird.—S. W. According to Dr. De Kay, this bird breeds mostly, high at the north, along the coast of Labrador, but has been known to breed in Massachusetts and Maine. In winter it comes down from the north, and is sometimes seen as far south as Maryland and Virginia. It feeds on the seeds of weeds and grasses, which it finds above the snow.

Ohio Mineral Paint.—A Farmer. The substance of what we know in regard to this article, was given in our last volume, page 379.

Food of Fowls.—L. B., Clayton, N. Y. Fowls should have a variety of food. Indian corn, barley, buckwheat and wheat-screenings, may form the bulk of their food in winter; but they should have some animal food, such as butcher's offal, and pure green vegetable food, as cabbages and potatoes; and also mineral matter, as lime, oyster-shells, bones, and gravel.

Plaster.—C. H., Central Village, Ct. The qualities in plaster, to which its action as a fertilizer are attributable, are undoubtedly dissipated, in some degree, by exposure to the weather; but with that which has been kept in casks, as you describe, we should not think the loss was very great.

Colman's European Agriculture.—A. L., Gale's Ferry, Ct. This work is for sale by A. D. Phelps, Boston, and also at this office. It is bound in two volumes, price $5.

Guano.—We believe the best success has attended the use of guano when sown just before a rain, or applied in solution. The proper quantity is 200 to 300 lbs. per acre.

Fish for Manure.—We believe it is considered best to make them into compost with peat or earth, to be applied when decomposed.

Prouty's Centre Draft Plow.—A. B. P., Boone Grove, Ind. We have never heard of these plows being used in any soil where they did not work clean; and we are not aware of any objection to their use in "the black, loose soil of the prairies."

Tiles for Strawberry-beds.—J. I. K., Sing-Sing, N. Y. The tiles about which you inquire, are described in our volume for 1845, page 128. We do not know of any establishment where they are made, but it would be an easy matter to make a mould and have them made at any brick-yard, and burnt in a common kiln.

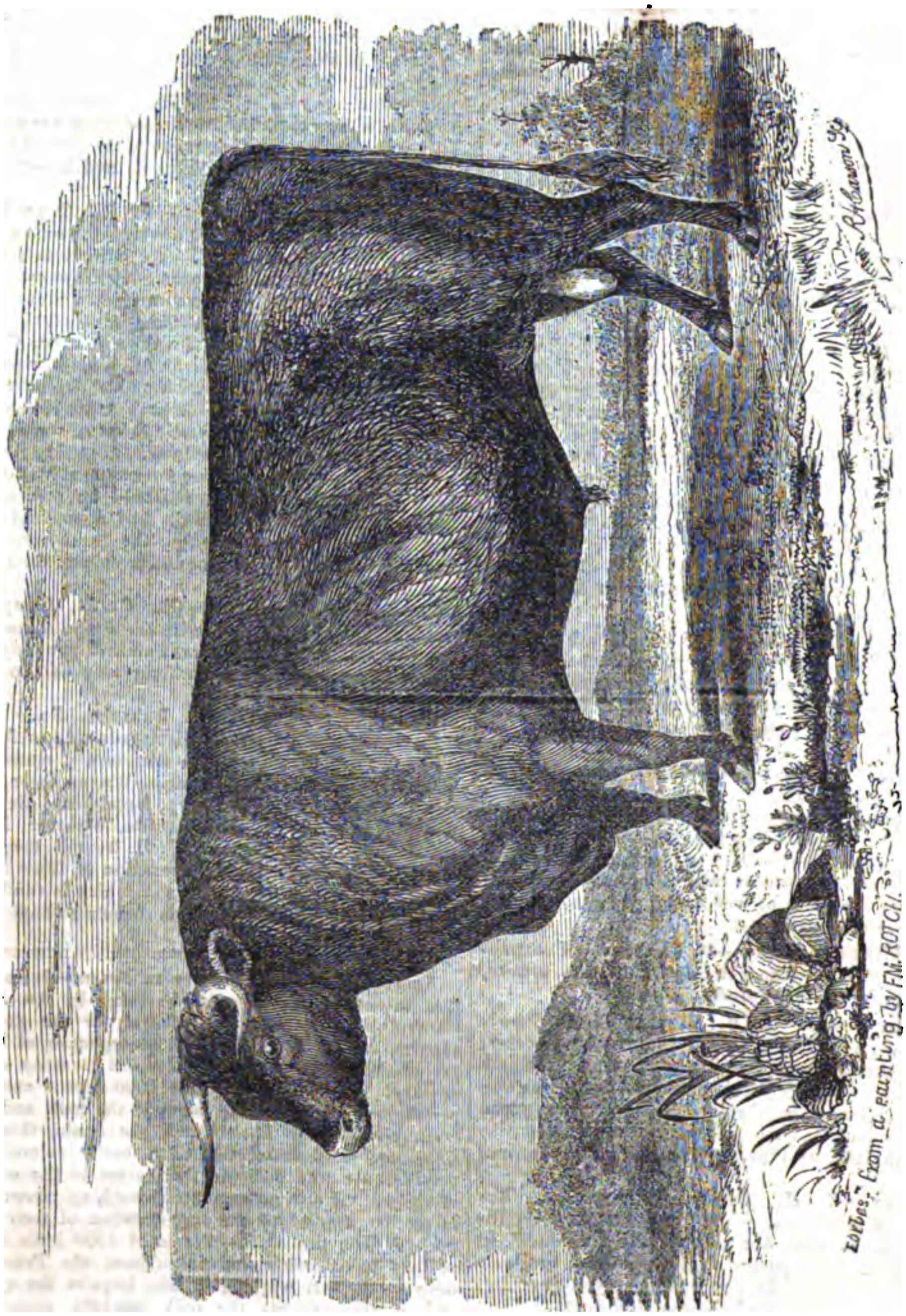
Centrifugal Wind-mill.—J. P., Cape Vincent, N. Y. There is a mill of this kind, on a small scale, in use in this vicinity. We cannot tell how it answers for general purposes. Perhaps some of our correspondents, who have more knowledge of it, will inform us in regard to its operation.

Ice-Houses.—O. L. D., Portage county, Ohio. It is best to build an ice-house with a double partition, the space to be filled with tan-bark, or some non-conducting substance. The bottom should be covered a foot deep with small blocks of wood, and over these a covering of shavings. Some lay the ice on the shavings—others lay a floor to receive the ice over the shavings. The ice should be packed as closely as possible. You will find a cut and description of the plan adopted by the great ice-merchants of Cambridge, Mass., in our volume for 1847, page 345.

Charcoal and Lime.—E. C. J., Campbell Court-House, Va. If your charcoal and lime are mixed together, and the lime is slaked, you may use with safety a bushel to each fruit tree of the size you mention.

Wheat Drill.—W. S., Lahaska, Pa. The grain drills which are most distinguished, so far as we know, are the following: Sherman's, made and sold by J. W. Sherman, Ontario, Wayne Co.; Palmer's, made by Fitch & Barry, Brockport; Graggs & Reynolds', made by O. Reynolds, Webster, Monroe Co.; Burrall's, made by T. D. Burrall, Geneva. Our acquaintance with the operation of these drills is not such as to enable us to say which is the best. We should be glad to hear from those who have tried different kinds.

Abolition of Bull-fights in Spain.—It is said that measures are about to be taken by the Junta General of Agriculture at Madrid, for the gradual suppression of Bull-fights, in consequence of their prejudicial effects on the interests and morality of the country. It is calculated that 4000 horses annually perish in Spain upon the horns of the bull, and in a country essentially agricultural like Spain, this continued and cruel destruction of a useful animal, deprives those who dedicate themselves to the culture of the soil, of a large amount of working power that might be applied to the augmentation of their prosperity. The annual destruction of 1500 bulls in the various fights celebrated throughout the Peninsula, destroys the best working breeds, impairs the quality of beef, impoverishes the milk markets, contributes to the decadence of pastures and fields, and augments the price of butter and milk, which in civilised countries are counted amongst the necessaries of life. All these considerations, and the fact that the people by attending bull-fights acquire habits of brutality and ferocity, by becoming accustomed to scenes of bloodshed, is likely to induce the government to attend to the representations of the Junta of Agriculture.


Forbes, From a painting by F.M. ROTCH.

DEVON BULL "MAJOR,"

Bred by R. C. GAPPER, *Thornhill, Canada, and owned by* R. H. VAN RENSSELAER, *Butternuts, N. Y.*

The Farmer's Note-Book.

Mr. Van Rensselaer's Devon Bull "Major."

(*See Portrait on preceding page.*)

This animal is at present the property of R. H. Van Rensselaer, Esq., of Butternuts, Otsego county, N. Y. He was bred by R. C. Gapper, Esq., of Thornhill, near Toronto, Canada West, and was exhibited by him at the show of the N. Y. State Ag. Society at Syracuse, where he took the first premium in the *foreign* class of Devons.

"Major," (calved in 1842,) was by "Billy," dam "Beauty," both imported by Mr. Gapper, from the stock of Mr. Darcy, of North Moulton, Devonshire, England.

"Major" is in every respect, one of the best bulls we have ever seen. His portrait, though generally true to the original, and highly creditable to the skill of the gentleman who made the drawing, as well as to the engraver, is in no way *flattered*. He is, in fact, just one of those animals, which, though rare, are sometimes seen, whose points of excellence cannot be fully shown on paper or canvass. He has great bulk, justness of proportion, and compactness of body, short-jointed, clean, and strong limbs; giving a general form which confers constitution and endurance, with the greatest power of draft. It is a form, also, which is fitted to carry the greatest weight of valuable flesh in proportion to the bone and offal. He is a *good handler*; the skin is not thin and papery, nor rigid and unyielding, but with sufficient substance to denote hardiness, has the mellowness and elasticity indicating thrift. The color is cherry-red, with the orange-colored ring round the eye and muzzle, characteristic of the true North Devon.

The distinguishing traits of the Devon breed of cattle, were given at some length in our last volume, pp. 120, 121, 122.

Crops of 1849—Drainage.

Eds. Cultivator—Our hay crop was never better since I lived here, (28 years.) The rains in the end of May and beginning of June, made both meadows and pastures where not over stocked, excellent. Taking this county, (Seneca) as a whole, I think there was an average crop of wheat. In the north half of the county, there was considerable loss by the weevil or midge; but the south half of the county was clear, or nearly so, of that insect. I had 59¼ acres of land in wheat, from which I obtained an average of a fraction over 25 bushels per acre, which is a tolerable crop in these times, but much short of what I expected when it was sown. The wire-worm cut off a 20 acre field very much in the fall, so much so that I intended to have plowed it up in spring; however, it recovered wonderfully, and gave at least from one-half to two-thirds of a crop. From the severe drouth, our corn crop was a short one, although after the light showers early in August, it recovered greatly, and all those farmers who worked their corn early, and continued working it, got much more corn than they at one time expected; but those who let the grass, weeds, and Canada thistles master the corn, got nothing worth husking. Some say they could not see what was the reason their corn was so poor, as they manured the land well before planting. I suppose they are not aware that on our stiff soil, barn-yard manure does no good for the corn, if put on immediately before planting; indeed, in a dry season, it does harm. Ever since I manured my corn ground in the fall, I have never failed of a fair crop. This season I made 80 bushels of ears to the acre, from 28 acres, being all I planted. Being disappointed of drain-tiles in the spring, I was prevented from planting as much as I intended.

As I sowed neither barley nor oats, I can say little about them. I find corn a more profitable crop than either. I am feeding cattle as usual. I have 40 steers now. The feeding of cattle is becoming quite a business hereabouts. Three years ago, when I commenced cattle-feeding with 43 head, I could not have found as many in ten miles around me. Now I can count 200. I think this mode of farming will ultimately improve our grain crops very much, and where rightly conducted, will pay much better for the corn, or even barley, than selling to distillers and brewers, to be manufactured into a poison to kill themselves or neighbors.

A word or two about draining. I notice what Mr. Cheever says* about draining. He thinks it rather startling that I should lay out 25 dollars per acre on draining; but if I had Mr. Cheever with me on my farm for six months, I would convince him that it was the most profitable business a farmer can go at, in this part of the United States. He says, Mr. Johnston is a Scotchman; and that he (Mr. Cheever,) "agrees with Professor Emmons, to some extent, that the system of draining practiced in England and Scotland, should not be models for us." It is true I am a Scotchman, and I will tell Mr. C. and Prof. E., that I have never seen, either in Scotland or the United States, a remunerating crop of wheat, grown upon land that was wet, or even very damp; and never saw such land thoroughly drained in either country, (if a wheat soil,) but it produced the very best crops; and I have seldom seen wet or damp land produce a good crop of summer grain, even in this dry climate. Wet or damp land, when under tillage, is much more affected by drouth than dry land, and dry land, when in pasture, will put on much more beef or mutton (say fat) than wet or damp land.

I should like much to have Mr. C. and Prof. E. here, if it were only for one day, in May or June next. I have a field of 23 acres now in wheat; the wettest I drained last spring. The want of tiles prevented me from draining all that was wet. Those gentlemen would just see the difference in the piece that was formerly so wet that it would not raise over half a crop, and that which is only a little wet, but enough so to make a thin crop of wheat. As to what Mr. C. says about the drains filling up on some soils, I do not agree with him. I have drained on different kinds of soil, and I have never had a stoppage where the work was properly done. I am often asked—"won't the tiles sink, or will they not fill up, in a few years?"

I took up about 20 rods of a drain last June, that had been laid for ten years, in order to put in larger tiles, as I was going to connect several other drains with it; and I sent for my friend and neighbor, Mr. Delafield, to see them taken up, as he had some misgivings about sinking or filling up. He can now say, that they were neither sunk, nor filled the least particle; indeed no man could have told that they had been a day under ground, from the appearance of the tiles. I have taken up sometimes tiles that had been longer laid, and with the same result. Only let the tiles be large enough, (or put more of them into the main drain,) and there will seldom be any trouble, after they are laid down. But we must have more tile machines in operation. I intended to have had 10,000 tiles home this winter; but find the maker has only a very few on hand. Farmers ought to have the tiles on the ground in winter; the expense of drawing is little, and if there are any soft tiles, they will decompose before spring, which is much better than to put them in the drain. JOHN JOHNSTON. *Near Geneva, Dec.* 25, 1849.

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* Reports of agricultural discussions at Albany, *Transactions* N. Y. State Ag. Society, 1848, page 664.

Agricultural Economy.

EDS. CULTIVATOR—The economy of the farm is that which first concerns the individual. Not to get rich; not simply to sell the greatest possible quantity of produce, but to maintain the original fertility of the soil or constantly improve it. The common farmer cannot expect to get rich, but with good management he may obtain a 'comfortable living,' and have leisure to enjoy social blessings, and time to devote to reading, and mental improvement. This should be done without *wearing out* the soil.

True economy consists in returning the same elements to the soil that are taken from it, and in the same quantity. This will keep the soil fertile, so that it will produce the same crops, both in kind and quantity, year after year. Vegetable productions derive part of their constituent elements from the earth, and part from the atmosphere. That part derived from the earth must be returned to it again, or it will eventually become barren. The ground that produces one hundred bushels of grain this year, will not, under the same circumstances, produce the same amount next year, unless its equivalent is returned. And the more a piece of land is cropped without manuring, the more labor and expense is required to obtain a crop from it. The farmer that sells hay, grain or stock,—if he does not use extra means to increase his manure—is reducing the fertility, and consequently the value of his farm. On new land this effect is not seen so clearly, but it is nevertheless true, and in time will be manifest.

The older settled parts of New England, furnish sad illustrations of want of true economy. Except in the vicinity of cities and villages, the soil has long been deteriorating. This is the result of bad management. The productions of the soil have been sent to market, and the fertility, in this way taken from the soil, has not been returned. Pastures have been grazed from April to November, and the fat cattle and sheep sent to Brighton. Hence, grain and roots cannot be raised as easily as they could be formerly, and pastures cannot sustain half the stock they could thirty years ago. And we hear frequent complaints of milch cows being affected with "bone disease," and bone dust must be procured for their relief. (Better *bone-dust* the pastures.) A reversed order of things is in many instances taking place. Less land is tilled and more pastured. The area of woodland is sufficiently limited, and it will not do to make further encroachments upon it for pasturage, therefore when the pastures will not summer the stock, that the products of the fields will winter, they must be enlarged by a portion from the fields. Or when a piece of tillage land is reduced so as not to pay for cultivating, it is "turned out" to pasture. Still by concentrating labor and manuring better, the original fertility of a portion of the farm may be maintained, but its aggregate productiveness is much diminished. And when it requires constant toil the whole year "to make both ends meet," the rich lands of the west present visions of ease and plenty too brilliant to resist, and emigration to Illin Wisconsin or Iowa, is "next in order."

The land in the immediate vicinity of cities large villages is becoming more fertile. The sou from which this fertility is derived is evident. Eve year thousands and tens of thousands of cat and sheep are collected in Vermont and New Ham shire for the *city* consumption. The vegetable pr ductions of the soil, to an enormous extent, are fu nished for the same purpose, together with larg quantities of flour, daily supplied from Wester New-York and farther on. In this way, the ele ments of fertility are transferred, the suburbs of ci ties are enriched, and remote districts impoverished The grazing portions of Vermont and New Hampshire are becoming less valuable, and so are all places that *export* more fertility than they *import* or manufacture.

Is it worth while to seek a remedy for these evils? In China the people are always engaged in saving every particle of manure that can be found; the English import vast quantities of fertilising substances; but our population is not so dense as to render it absolutely necessary in our case. Besides the cheap and fertile lands of the West are so inviting, that it must be a long time before expensive cultivation will be resorted to. Yet it is important that we should understand what we are about. If there are defects in our system let them be pointed out, and if possible, remedied. At any rate, farmers should save and apply all the fertilising substances within their reach. W. L. EATON. *East Weare, N. H.*

Water-tight Cellars.

EDS. CULTIVATOR—Some time ago there was published in *The Cultivator* an inquiry for information how a wet cellar can be made dry, when draining is inconvenient? A wet cellar is a sad thing—a nuisance to a farmer, and always inconvenient for the storage of many valuable articles of agricultural produce. When under a dwelling, it is frequently the fruitful, yet unsuspected cause of intractable sickness, to those living within the influence of the pestilential miasma, that, during warm weather, continually rises from it.

The subject is of such importance, as to press itself upon the attention of reflecting minds, and to call for a more extended notice than it has yet received. Every reader who has experience in the use of means to make a dry cellar, should communicate it to the public. In the absence of experience to make a "wet cellar dry," it may be useful to show how a cellar can be constructed, secure from water, by a cheap method, in any place where *clay* can easily be procured. A brief sketch, also, of some of the uses to which this substance is applied in connection with its impermeable property, may afford hints how it can be used to effect the purpose, in reference to which the writer of the publication alluded to, asks information.

Every farmer knows that water will not soak through a clay subsoil. Some careful farmers, availing themselves of their soil, dig ponds in the lowest part of their field, or orchard, to collect and retain rain water for the accommodation of their hogs in pasture; or in very dry summers to haul a few barrels of water there for that purpose. Clay is extensively used along the line of our canals, to stop the leakage through the embankments. When used for this purpose, or to stop the leakage through the breast of a mill dam, or the bank of a meadow ditch, it is called "puddling;" and when this is properly done, it is capable of resisting a heavy pressure of water.

Availing ourselves of this water-tight property of clay, we use it in the construction of our cellars, in a simple, but effectual manner. We stake off and dig the cellar, so large as to leave a space of from eight to twelve inches, between all the walls of the intended building and the banks. This space to be continued from the surface to the foundation; and a sufficient quantity of clay must be provided to fill this space. The work of filling it in, and ramming it solid, should commence soon after the foundation of the building is laid, and be continued as the masons progress with the wall, until the surface of the ground is reached. Small stones and chips must be carefully left out, and only a few inches of clay thrown in and rammed at a time.

The writer of this has tried the method here given with a good result, and does not know an instance in which it has failed to make a dry cellar. This invariable success has suggested the plan to stop the leakage of water into a cellar of faulty construction, by digging out next the walls of the building, the width of a shovel or more, and as deep as their foundation. This excavation to be filled tight with clay, and a dry cellar has been the result.

There may be wet cellars caused by a different state of things than are here referred to; for instance an upward infiltration of water through the bottom of the cellar — or one or more springs may rise therein. Such defects might probably be remedied by the same means that are recommended in a former volume of *The Cultivator*, to sink a spring or pond of water in a field. Not having much experience or opportunity of observing the effect of these measures, I leave the subject to the consideration of others. A. B. *Setzl[illegible] Store, Chester Co., Pa.*

Bartlett's Double Plow.

The peculiarity of this plow consists in combining two plows in such a manner th[illegible]wo furrows can be turned at once, with one team and one plowman. We are aware that the combination of plows is not new; but the mode of connecting them in this case, is different from any with which we have been before acquainted. In distinction from others, the frame which connects these plows is so made that each plow has in some degree an independent action, by which the two, when working together, are adapted to the ordinary inequalities of surface, and insure the proper execution of the work. The principle of combination will apply to plows of any size or shape.

We have had two opportunities of witnessing the operation of this plow, on the farm of W. O. Bartlett, Esq., of Worcester, one of the patentees. We have seen it used under different circumstances, as follows:

1. On plain land where the soil was loose and light. A good yoke of oxen readily drew the plow at their accustomed gait, making two furrows, each seven inches deep and ten inches wide, one man holding the plow and driving the team. The plow ran for many rods after it was set in, without being touched by the plowman.

2. On a stubble-field, where the soil contained many small cobble stones, and where the plow was often turned out by large boulders and fast rocks. The same man and the same oxen managed the plow as in the above case, and the depth and width of the furrows were also the same. The work was as well performed as it could have been in any way No difficulty was experienced in getting the plow over the stones, or in running the furrows close to them; the cobble stones did not throw the plow out; on the contrary it held its depth as well, if not better, than a single plow could have done—the two plows seemed to steady each other, which tended to preserve a uniform depth.

3. On somewhat rough land, with a very tough sward. In this case two large plows were used, each cutting a furrow eight inches deep and twelve inches or more wide. Four good oxen were attached to the plow, one man drove the team and another held the plow. The work was well done and with great dispatch.

This plow has been considerably tried in Massachusetts by many of the best practical farmers, who have certified that it makes a great saving in the expense of plowing. We entirely coincide in these statements, and have no hesitation in saying that the introduction of this implement will be attended with signal advantage. On tenacious soils, it may induce a better system of tillage. To insure the best crops on such soils, particularly of wheat, it is important that they should be plowed fine, and thoroughly pulverised. This is generally admitted, but the objection raised is, that such nicety of work takes too much time; and hence, in order to go over the requisite extent of surface, the furrows are made wide, leaving the soil in compact masses. By the use of the double plow, the furrows may be cut deep and narrow, while at the same time the work is more expeditiously performed, and at less expense.

In wheat-growing districts, we think this will be found of much importance, especially in plowing fallows, and not less in clover ley, where only one plowing is given before seeding. On all plain lands, and on the western prairies, the saving which will result from this combination of plows, will perhaps, be still more striking than in other situations.

We append the following from a letter lately written to Mr. Bartlett, by Hon. D. Webster:

In June, 1849, an experiment was tried on my farm in Marshfield with one of your double plows, on a piece of land intended for turneps, somewhat rocky, with a hard sward, not having been plowed for many years, and many bunches of bushes growing upon it. The plow appeared to work well, and Mr. Wright, who has been our principal farmer for many years, was greatly pleased with it. The furrows were as well laid, as I thought, as they could have been by any single plow.

Mr. Taylor, who lives on my farm in New Hampshire, wishes me to send him a double plow. His land is level, rather a rich loam, and entirely free from stones. He thinks that with a double plow, and a pair of horses, with a light hand to hold, he could quite easily plow three acres a day, for many days in succession.

It struck me, when seeing the plow in operation, that one part steadied the other, and made the work smooth and even. The saving of labor in the use of the double plow. is too apparent to need remark.

Profits of Fowls.

Mr. Edwin Howard, of Easton, Mass., gives an account of the profits of his fowls from the first of December, 1848, to the same period of 1849. He began with nineteen hens and a cock, and in the spring he added one more hen. The whole stock was valued at twenty dollars. The number of eggs produced in the year, was 1,851; the number of chickens raised by himself was 82. The eggs sold, brought $27.97, and the fowls sold, $46,48. Thirty-two fowls on hand, are reckoned worth $30. His fowls are mostly of the variety called Cochin China, imported by Mr. Bayliss, of Taunton, Mass. The eggs that were sold were reckoned at fifty cents per dozen, though one dollar was the price charged; but fifty cents per dozen was deducted for the trouble of packing and sending off. The accout stands thus:

Eggs sold—1300,	$27 97
Eggs not sold—581, at 15 cents per dozen,	7 27
Fowls sold,	46 48
Value of fowls on hand over last year at this time,	10 00
	$91 72
32½ bushels of corn and meal, at 75 cents,	24 37
Balance in favor of fowls,	67 35

Wire Fences.

Editors Cultivator—I regret to notice in the January number of the Cultivator, an article against *Wire Fences;* and to show that the writer is "reckoning without his host," I will state that No. 10 wire, which is the finest used, can be bought for 5¼ cents per pound; and that Mr. Ellet, the constructor of Wire Suspension Bridges, in a report, states that a single strand of this No. will sustain 1500 pounds. A fence of wire of this No. may be made for 50 cents per rod; and in case of the "plunging of heavy cattle against it," they would probably meet with the resistance of three of the wires, and an animal in breaking them must employ a force equal to about 4500 pounds; and the writer alluded to thinks that when made even of wire so large as to cost $2 per rod, it will be "frequently broken" in that way. Now according to the above calculation, they must be mighty cattle, possessing "a power" of strength and force fully equal to the iron-horse called Loco-motive.

Any one who has observed the effect of wind in swaying and breaking off the wires of a well-constructed wire fence, must admit that the objection is at least a windy one.

Now although I have had but about 40 rods of experience in making this kind of fence, and which cost me less than 50 cents per rod, I am fully of the opinion that it is worthy of the attention of every farmer who has not "stones on his fields which he wishes to get rid of;" for I know of no locality where a farmer can erect a rail or board fence for much less than $1 per rod; but I can refer you to many large sections where every farmer will tell you his rail and board fences cost him nearly double that sum, and is yearly increasing as our forests and wood lots are decreasing, and are enhanced in value. That a cheaper substitute for field fences is loudly called for, no man can dispute. It is true that the American farmer is at greater expense for the support of his fences than any other farmer in the world. It is by far the heaviest drawback upon the profits of the farmer, that he is obliged to contend with. Indeed it stands like a lion in the pathway of many great improvements which long ago would have been made, and which every farmer yearly sees and is desirous of making, but is reluctantly compelled to turn from, and apply all the means in his power to his decaying fences of wood. And how, I ask, are our western prairies to be fenced, where in many instances, not a tree is to be seen or stone found for leagues; and it has been found that embankments of earth there will not answer. In consequence of the great cheapness of iron, many have been led to experiment with it in the form of wire as a substitute for wood fences, and I see nothing against its success, after, perhaps, some better method shall have been contrived for straining, fastening and uniting the strands; and should it come into general use, it would add immensely to the great iron manufacturing interest of the country.—Three and a half feet high is sufficient for sheep, and 5 feet for cattle and horses; and I should be pleased to give such information as I am possessed of with regard to constructing it.

And now I earnestly suggest to every reader of the extensively circulated Cultivator who has had any experience or observation respecting Wire Fences, to transmit their views to this journal, together with a minute method of constructing it, and I doubt not that an opinion may at once be formed with regard to the propriety of its general adoption. A. B.

The original signature of the above communication having been that of a well-known and regular correspondent of *The Cultivator*, we have thought it proper to substitute another in its stead. We shall be glad to receive from A. B., and from any other of our readers who have erected wire fences, their views as to the best method of constructing it, its cost, and probable permanence.—Eds.

Products of Labor and Capital.

The Report of the Commissioner of Patents for the year 1848, makes the following estimate of the products of labor and capital in the United States for that year:

	Quantities.		Value.
Wheat,	126,364,600	bushels,	$145,319,290
Indian Corn,	583,150,000	"	344,058,500
Barley,	6,222,050	"	4,044,332
Rye,	32,951,500	"	21,418,475
Oats,	185,500,000	"	64,925,000
Buckwheat,	12,523,000	"	6,261,500
Potatoes,	115,475,000	"	32,342,500
Beans,	10,000,000	"	10,000,000
Peas,	20,000,000	"	17,500,000
Flaxseed,	1,600,000	"	1,920,000

The prices of these articles per bushel, are thus estimated:

Wheat,	115 cents.	Buckwheat,	50 cents
Indian Corn,	59 "	Potatoes,	30 "
Barley,	65 "	Beans,	100 "
Rye,	65 "	Peas,	87½ "
Oats,	35 "	Flaxseed,	120 "

It will be seen that Indian Corn is estimated at the immense sum of more than $344,000,000—while the gross amount of the Wheat produced was little more than $145,000,000.

	Pounds.	Value.
Tobacco,	218,909,000	$8,756,360
Cotton,	1,066,000,000	74,620,000
Rice,	119,199,500	3,575,985
Sugar,	275,000,000	13,750,000
Silk,	400,000	800,000
Hops,	1,566,301	140,967
Beeswax,	789,525	165,800
Honey,	23,665,750	2,366,575

The prices are thus given:

Tobacco,	4 cents.	Silk,	$2 00
Cotton,	7 "	Hops,	9
Rice,	3 "	Beeswax,	21
Sugar,	5 "	Honey,	10

The quantity of molasses is estimated at 9,600,000, which, at 28½ cents, realized $2,736,000.

Wine, 500,000 gallons, which, at $1, brought $500,000.

The annual value of pasturage is put down at $60,768,136.

The value of the residuum of crops, such as straw, chaff, &c., $100,000,000. Of manure, $60,000,000. Product of orchards, $9,071,130. Of gardens, $45,000,000. Nurseries, $741, 917.

Butchers' meat, including mutton, beef and pork, $146,597,360.

Hides, felt and tallow, $20,000,000.

Neat Cattle, $4,461,470. Horses, mules and asses, $8,129,350. Poultry, $11,680,512. Eggs,

$5,431,500. Live geese feathers, $1,000,000. Products of the dairy, $42,233,785. Milk, $20,000,000.

Products of the forest, including lumber, furs and skins, $22,250,000.

Firewood, $37,500.000.

Fisheries, $17,581,339.

Profits of capital employed in commerce, $24,000,000.

Value of the products of manufactures, $550,000,000.

Products of the mines, including iron, lead, gold, silver, marble, coal, &c., $75,000,000.

Profits of Banking and Insurance Companies, $20,000,000.

Profits of money loaned at interest, $20,000,000.

Rentals of houses and lands, $50,000,000.

Profits of professions, $50,000,000.

The aggregate of the whole estimate of the produce of labor and capital in the United States in 1848, is given as $2,323,564,765.

Things in Virginia.

Eds. Cultivator—There can be no question but a large number of our farmers would not hesitate to spare a dollar or more, to see some trifling amusement—a "bear dance," or a cock-fight; and yet are indifferent towards an agricultural paper, which like a true friend, sticks by them, ever ready to point out the poor and wet parts of the farm, saying—"drain, manure, plow deep, harrow fine, seed well, read and observe."

Allow me to make a suggestion. Suppose every member of an agricultural club or society, were to make a report of all his operations at the end of every year, stating the number of his family; the number of laborers and the number of those unable to labor, the number of stock of all kinds, the food consumed by all, the work for each lot or field and the number of acres in each, the kind of crop, the yield, the amount of money received and spent, the state of the weather for each month, with such remarks as suggest themselves—would it not be useful?

Our crops last year were fair, except fruits, of which we had none. I did not see a good peach or apple the whole season. The whole fall and December were very pleasant, till the night of the 30th ult., when it commenced raining, then hailing, and ended in snow, which fell six inches deep. The thermometer was down to 12° on the first of January. J. Bunch. *Chuckatuck, Nansemond Co., Va., Jan.* 1, 1850.

Mode of Planting Corn.

Eds. Cultivator—We have in this section a method of planting corn which may be new to some of your readers.

After the ground is furrowed one way, one man commences furrowing in the other direction. A boy or man follows and drops the corn. Then another, provided with an implement something like the common shovel plow, with a square piece of iron about the size of a common hoe screwed fast to the end of it, follows the dropper and covers the corn, by letting the iron scrape up the dirt from the bottom of the furrow, and deposit it immediately on the hill. As soon as the corn is covered up, the planter is dropped again for another hill, &c. This method here, in our new fields, where stumps are very thick, is a great saving of time. Two men, and a boy 12 years old, with two horses, can furrow out one way, and plant eight acres in a day. This I know to be true, for I helped to plant one of my fields of eight acres in this manner last spring. The shovel-plow, with a square piece of iron on the end of it, will answer the purpose. W. R. Webb. *Vienna X Roads, Clarke Co., Ohio, Dec.* 27, 1849.

Profits of the Dairy.

Eds. Cultivator—We have many times noticed in your paper, statements made by different writers of the profits of a dairy. Below we give you an account of the proceeds of our dairy for the year 1849, from forty-one cows, six of which were heifers, having their first calves the same season:

INCOME.	
41 calves, at four weeks old, $4 each	$164 00
3,748 lbs. cheese, at 9 cents per lb	337 32
6,569 lbs. butter, best quality for table use, at 20 cts per lb.	1,313 80
6,570 gallons, or 18 galls. per day, new milk, used on table, never skimmed, at 3 cts. per quart	788 40
For manure	200 00
Total amount	$2,803 52

EXPENSES.	
10 tons wheat bran, or ship stuff, at $10 per ton	$100 00
600 bushels beets at 1s per bushel	75 00
62 tons hay, at $8 per ton	496 00
26 weeks pasturing for 41 cows, at 1s per week each	333 25
Slops from kitchen during the year	15 00
Nett expenses	$1,019 25
Total amount	$2,803 52
Deduct expenses	1,019 25
Leaving a balance of	$1,784 27

Making an average to each cow, of	butter	160 lbs.	3½ oz.
" "	cheese	91 "	6½ oz.
" "	milk	160 galls.	

The milk, it will be understood, is that which is used on table by boarders, never skimmed.

Add manure and calves, and the total amount for each cow is	$68 37
Deduct expenses	24 86
Nett profit to each cow	$43 51

Made of butter in the month of October, 1849,	1st week	180 lbs.
" " "	2d "	201 "
" " "	3d "	191 "
" " "	4th "	157 "
" " "	5th ½	173 "
Total in October		932 "

We prefer putting our cows in the stable while milking, at all seasons of the year. This affords an opportunity of *messing* twice a day, and is done regularly at time of milking, believing it the best time. Wheat bran, or shorts, mixed with slops from the kitchen, or dairy, make a good feed for milch cows.

Some think it quite objectionable and very unnatural for cows to eat or drink whey and milk, but we see no good reason for such objections.

We have practiced for some years feeding our cows the whey and skimmed milk from our dairy, mixed with wheat, buckwheat, or rye bran, and have never seen any injurious effects whatever—but, on the contrary, believe it to be very beneficial, and productive of good sweet milk and butter.

It is very necessary for milch cows to be well supplied with good pure water, especially in the winter season when fed on dry fodder. We make a practice of watering our cows twice a day, morning and night. This is given them in the stable, where they can drink at leisure, sheltered from cold and storm. *New Lebanon, Shaker Village.* Family of Jonathan Wood and Edward Fowler, numbering 130 persons.

A change of fortune hurts a wise man no more than a change of the moon.

A false friend and a shadow attend only while the sun shines.

Fools make feasts and wise men eat them.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Transactions of N. Y. State Ag. Society, for 1848.

This volume of nearly 1000 pages, (received through the kindness of B. P. JOHNSON, Corresponding Secretary,) should have had an earlier notice, especially for its valuable matter in relation to fruits. The most important article of this character is Dr. WENDELL's Report, occupying 22 pages, and embracing outlines and full descriptions of American Summer Pearmain, Summer Rose, Autumn Strawberry, Pomme Royal (or Dyer,) Mother, Melon, and Wagener *apples;* Rostiezer, Tyson and Golden Biboa *pears;* and Red Gage and Purple Favorite *plums.* It also contains descriptions of White Imperial and Cooledge's Favorite *peaches; Moorpark* and *Breda* apricots; and Downton and Boston *nectarines.* A better addition to the excellent list of fruits already published by the State Agricultural Society, could not well have been made. The Wagener apple, a new variety from Yates county, received the premium of the Society, as a new fruit of the highest character; and the committee appear to have exercised fearlessly a discriminating judgment, in allowing no other to rank with the required standard, out of a large number presented for examination by some of the best cultivators in the country.

From a valuable and interesting article in another part of the volume, from the pen of N. LONGWORTH, of Cincinnati, well spiced with the peculiarities of his style, we extract the following:

> *Fox Grapes.* "Two years since, I was informed of a superior German grape, cultivated by a German in our city, who had not only sold the fruit to our confectioners at a high price, but had already engaged all his cuttings, and refused $200 for the vine. I started in the pursuit, warm as the day was, and after trudging on foot for three hours through the dust, and a scorching sun, the garden was pointed out to me, where this celebrated grape was to be found. I became aware of its quality when within fifty feet of the vine, for I discovered the fine scent of the fox grape, that was so much admired in my days of boyhood. It proved to be a fox grape of the poorest kind, but ripened early, and I found I could buy the plant for $500. This was too high a price for a prudent Jerseyman to give, and I had my walk without any profit. I shall be pleased to furnish cuttings to any person foolish enough to deem them worthy of cultivation."

Strawberries.—The following statement of experiments and result of Strawberry culture at Cincinnati, from the same article, are interesting:—

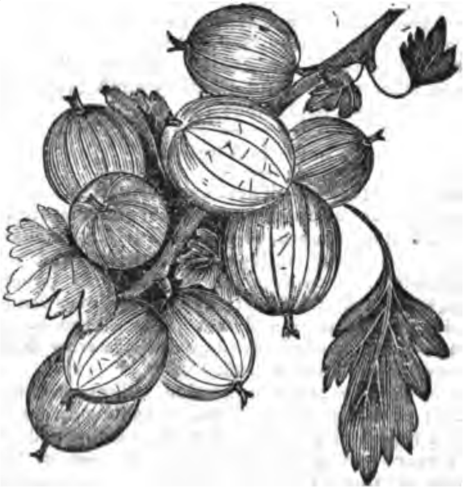
> The Hovey's Seedling bears larger fruit than any variety we cultivate. But it is subject to die out with us in winter. Its season of fruiting is short, and we deem it inferior in flavor to some other varieties common with us; and we have several varieties, that the average of the fruit is as large, and some larger. The average size, cultivated as we cultivate other varieties, is less than three inches; —I should say, less than two and three-fourth inches in circumference. I believe the strawberry with us acquires a larger size than it does east. Our apples, pears and peaches are larger. Some of my tenants this season had peaches measuring 14 inches, and sold their finest at $8 per bushel. But in justice to Hovey's Seedling, I would add that no garden should be without it, and though not found by us to be the most profitable for cultivation for market, it is a desirable variety to cultivate for sale, as its first fruit is larger than any other, and commands a higher price. * * * I trust the horticulturists of Boston will now have a staminate worthy of cultivation, in addition to the Boston Pine; for Mr. Schnieke informs me that a gentleman from Boston saw his bed of seedling pistillates, when in fruit, and paid him $6 for a few plants. Mr. Burr has certainly raised some varieties worthy of their notice; and Mr. McAvoy and Mr. Schneike, in the Garden of Eden, adjoining our city, have raised several thousand seedlings, from the largest pistillate fruits, impregnated by the largest fruited staminates; and among them, McAvoy had last season a pistillate that bore as large fruit as any of the Hovey in this vicinity, and its average size larger. It was shown at the exhibition, and he claimed the prize offered by the Society, as equalling what they required. The Society laid his application over till his seedling was further tested. * * * Mr. McAvoy raised more than 1,000 plants from the seed of the Hovey, impregnated by the Swainstone: Yet among them, he found but one plant which he deemed worthy of cultivation, as new varieties are not desirable, unless equal to, or superior to the parent

Horticulturists are familiar with the fact that nothing retards so much the growth of a plant as the production of seed. The practical result of this influence in strawberry beds, alluded to in the following remark, should not be forgotten:

> Young plants often spring up in the bed from seed, and if staminate, and left two years, will often root out half the pistillates, as it is generally the more vigorous plant, and having no fruit, or but little to bear, will form a dozen plants, whilst the pistillate is forming one. It is in the vegetable kingdom, as with we lords of creation, the female is trodden under foot.

Houghton's Gooseberry.

A correspondent inquires, "How has this new gooseberry proved with you, and is it equal to its reputation?"



Houghton's Seedling.

This variety is too small ever to become *famous* in this day for showy exterior; it is of a pleasant but not decidedly high flavor. A single season, on a very small bush, with bearing shoots only a few inches high, indicates, in accordance with its reputation, a profuse bearer; whilst its hardiness, easy propagation, and freedom from mildew, constitute very desirable qualities. The figures which have been published of this fruit, unlike those usually exhibited of new sorts, are only about a fair average in size, being about three-fourths of an inch long. Salem, Mass. is the place of its origin.

Rotation of Crops.

Extracts from Correspondence.

"The doctrine of Rotation of Crops for ordinary soils, is well established, and Judge Peters of Pa. extended it to forest trees, showing that one kind of timber, frequently, if not generally, succeeded some other kinds, as oak after pine, and birch or beech after hemlock. Lately, Professor Liebig, however, showed that the ashes of the vine formed an excellent manure for the same plant; and others have recommended the twigs and leaves *unburnt* for the same purpose. Why lands become impoverished when the crops are *removed*, is more easily understood than why the forest should require a rotation when all the timber rots on the ground. But be this as it may, I am satisfied that some plants are *well,* if not *best* manured with their own leaves. Some years ago, Col. Carr, of the Bartram Botanic Garden, sent me a bulb of *Crocus scrotinus*, which increased very slowly for several years; but letting it remain on the same spot it has gradually become more productive, and now I think it increases as fast as any of the other kinds. A similar remark would apply to *Scilla sibirica;* and latterly I refrain from shifting them from one place to another, when I have occasion to reset them. Now if these observations are correct, it might be well to *dig in* the leaves of the tulip and hyacinth."

" * * * * Pine knots are almost imperishable; and I have heard of oak lands far from where pines were growing, that when cleared, the plow turned up pine knots. There are millions of acres, however, were no pine knots were ever discovered; and where oaks, as far as we can ever know, have grown crop after crop for ages in succession." D. T.

Dictamnus Fraxinella.

Dictamnus Fraxinella, from Germany, is one of the finest of border plants. Stem between two and three feet high: on the lower half, leaves, like those of the ash tree—on the upper half, *flowers*, showy, abundant, with red and white striped; but as it is easier to copy than to compose, let Loudon speak:—" The whole plant, especially when gently rubbed, emits an odor like that of lemon peel; but when bruised, it has something of a balsamic scent. This fine scent is the strongest in the pedicels of the flowers."

Another sort with white flowers is desirable, as contrasting with the former, and botanists have tried to erect it into a separate species as *D. albus*. It would seem, however, that all the difference,—if any, consists in the leaf stalks, the former, according to Prof. Lindley, being "*obscurely edged*," while the latter is "*scarcely edged at all*." In the spring these sorts are readily known by the color of their buds; but lately wanting to select one in autumn before the redness on those of the D. Fraxinella appears, and having nothing to guide me but the leaf stalks, I was puzzled to distinguish them. Those on plants which I happened to know were the *white* and the *red*, were as much alike as two peas; and and in truth what is the difference between " obscurely edged " and " scarcely edged at all?"

Seedling Fraxinellas in my borders vary considerably in color, that is, from *deep* to *pale* red. There has been in none of them, however, any near approach to white. D. T.

Transplanting Trees.

If fruit trees were not tenacious of life, but very few could survive the treatment which they often receive. It is not uncommon for a farmer to go many miles in bright sunshine for a load of trees; and without protection or covering of any kind, keep the roots exposed for a day or two. The earliest departure from this negligent custom that has come to my knowledge, was by the *Princes* of Flushing. The roots of trees and shrubs that left their nurseries were dipped into soft mud, and then dusted, which coated every fibre, and excluded the sun and air. Of the importance of this operation, I have been so well satisfied that in transplanting trees only from the nursery into the fruit garden, we have taken this precaution; and even in the driest seasons very rarely lose a tree.

But though mudded, trees or shrubs that arrive from a distance, in most cases would be benefited by a second coat, and I intend never to plant another without it. Care should be taken however, that the mud be of the right consistence; for if too thin or too thick, it will be of less value. It is much easier to prepare it by making the soil very fine before the water is applied; and the mortar should be thoroughly worked before using. In regard to the dust, I prefer that in which finely divided horse manure forms a liberal proportion. D. T.

Planting.—"Is it Extravagance ?"

Said one of my neighbors to me this morning—" Gen. S. says I am setting a bad example and encouraging extravagance, by the large amount of time and expense I am devoting to improving and ornamenting the few acres of ground around my home."

My neighbor to whom I first referred, is an active and successful business man, and having accumulated more money than he needs in business and for his current expenses, has come to what seems to me the very commendable decision, instead of hoarding up his accumulations, to expend his surplus, or a portion of it, on some few acres of finely located grounds in the midst of one of the flourishing villages of Western New-York. In order to which he has laid them out in scientific order, brought in and planted the choicest selection of trees from our forests; almost every desirable fruit tree and beautiful shrub found in any nursery, from Boston and Long Island to Rochester; and besides he has planted every thing with a care that I have never seen equalled, and watches and cultivates them continually with the same untiring faithfulness. The consequence is that every little cottage around, is beginning to feel the effect of his spirited example, and some of our common laborers have made by it the discovery that the few minutes of spare time usually devoted to lounging about the villages, will be ample, if judiciously employed, to make the few rods of ground around their humble dwelling, furnish as cooling shade trees, as magnificent and wholesome fruits, and as delicious strawberries, and as luxuriant vegetables.

Now permit me to ask, do not such results reflect high honor upon any man who has the public spirit to produce them? And is not the cultivation of the productions of the earth in the *best manner*, the privilege and the duty of man?

Does my neighbor deserve the rebuke he received? WAYNE. *Palmyra, N. Y., Dec.* 4, 1849.

[We may add to the preceding, that those who find fault with the extravagance of ornamental and useful planting, are not unfrequently the very persons who are expending ten times the amount in costly dwellings, extravagant furniture, and splendid equipage. An extra thousand used up to make a showy house, will not in reality produce so gratifying a show, nor so much real external pleasure, as one hundred judiciously spent in planting ornamental trees and shrubs. EDS.]

The Fire-Blight.

EDS. CULTIVATOR—I believe that the diagnosis of the disease called fire-blight, which afflicts our pear trees, both in nursery and seed bed, has never been satisfactorily understood. Thus far, it has been a serious drawback on the successful growing of both, often causing the death of thousands of trees in a season, thus blasting the hopes and prospects of the grower. When I first commenced the nursery business, there was no such thing known in the vicinity, and the first I ever saw of it was on the leaves of a pear tree called Soldat Laboreur, which was procured from a nursery on Long Island. It was set in a row of pear seed. In autumn the next year, it appeared sickly, the leaves being covered with the leaf-blight. These I noticed particularly, as being something unusual. On the same plot of ground I had 80,000 pear seedlings, growing in a fine thrifty state, and had always raised good stocks in previous years. A few days after I noticed the peculiar affection of this pear tree, there occurred a storm of wind and rain from the southwest, and in a few days the disease showed itself on the seedling rows, diagonally across, and in the exact direction that the wind was blowing during the storm, from this tree; and from this it spread each way, until the whole of my seedlings were affected, and lost their leaves. This occurred so late in the season, that the trees were not killed by the winter. The next spring they were set in nursery rows. The blight again showed itself earlier than the previous year, and the consequence was that two-thirds perished, from the cause of their being deprived of their leaves too early, before the wood had sufficiently ripened to withstand the effects of the frost. It had become so prevalent that the lower leaves on standard trees were affected; and the seedlings growing on the same premises were killed outright, on account of its commencing so early. It was also communicated to quince stocks which were deprived of their leaves, and it was found impossible to bud them in consequence.

I am satisfied that it is caused by a species of fungus, the seeds of which are carried by the wind and lodged on the surface of the leaves, but need moisture to a certain degree, and warmth, to promote vegetation. On close examination of the spots, the main part seems to lie beneath the surface of the leaf, with reddish veins running in various directions, and when there are a number of spots on one, the veins seem to occupy the whole; but probably the spots cause a disarrangement of the functions by poisoning the juices, rendering them useless.

In another nursery in this vicinity, there were pear trees which were attacked while making their first year's growth from the bud. These trees stood near the middle of the nursery, along the border of which were growing young pear stocks, in a bed more than fifty rods in length, on the east side. The disease on these stocks, commenced directly opposite to this section of budded trees, and extended each way, until the whole were deprived of their foliage. All this goes to show that it is contagious; consequently, this year, by way of experiment, I concluded to plant my pear seeds far away from the influence of any other nursery or pear trees, by which the disease might be communicated. My experiment has been attended with the best results; for I have succeeded in raising as fine healthy stocks as any nurseryman would wish to see; not a spot of the blight has shown itself. My ground has had no extra preparation, except such as ground should receive, in order to grow a good crop of corn. I now suggest that every nurseryman who has hitherto failed in raising stocks, in consequence of this disease, try this experiment, and communicate the results. I. HILDRETH. *Big Stream Point, November 2, 1849.*

Winter Pears.

Fruits are variable in quality from two causes. One is from liability to be easily affected by soil, culture, and other similar influences; and the other results from the effect of *temperature*. The former is exhibited remarkably in the *pear*, which is almost proverbially variable in quality; and the latter is more particularly observable in the *peach*, the later varieties of which often wholly fail as to excellence at the north, while the earlier sorts, whose periods of ripening are not thrown into the colder parts of autumn, are more uniformly good.

Winter pears suffer in quality from both causes. Like other pears, unless they grow in a good deep soil, they cannot perfect their fruit. And, unless the season is sufficiently long for their maturity, they will be deficient in flavor. The difference, however, between good and bad cultivation, independent of the season or climate, is very great. The best treatment, even under an unpropitious sun, will generally give us much better winter pears, than the most favorable skies without it. No person should even think of raising winter pears of most varieties, at the north, without giving them the best cultivation.

The following successful experiment with late ripening pears, is copied from the *Family Visitor*, a new scientific and miscellaneous paper of great value, edited by Prof. KIRTLAND and others, of Cleveland, Ohio:

"While alluding to the progress of our pear crops, from year to year, we have occasionally observed, that while the spring and the first month of summer, were attended with a favorable supply of rain, the earlier varieties of pears, as the Citron des Carmes, [Madeleine,] Dearborn's Seedling, Bartlett, &c. rapidly develope in size, and ultimately ripen in high degrees of perfection. A long protracted and severe drouth has several seasons commenced about the middle of June or early in July, and continued perhaps till the period for the growth of vegetation had passed. Whenever this occurred, the later ripening pears have failed to attain their wonted flavor, and have often been inferior in size —particularly on trees standing on dry and gravelly soil.

"During the last two seasons, we attempted to obviate the unfavorable impression of dry weather, and selected, for the purpose of experiment, trees of the Lewis, Winter Nelis, and Easter Beurre— all of which stood upon the *dry ridge* that runs parallel to the lake, in Rockport, five miles from this city.

"Moderate supplies of the necessary elements of nutrition for the pear were repeatedly applied, the surface of the ground was mulched or shaded, either with bones, brush, or litter, and the earth was frequently dug with a spade.

"This course, in our view, was furnishing them with a *a rich, moist soil*, and *high culture*.

"The specimens of the Lewis and Winter Nelis, from two trees thus managed, could hardly be surpassed in delicacy and rich flavor by any of the most popular varieties of summer and autumn. The fruit from the third tree, an Easter Beurre, measures in its greatest circumference, *eleven and a quarter inches*, and in its shortest, *ten and a-half inches*. By proper attention, this fruit will, doubtless, ripen in the finest perfection at the close of the winter."

VERBENAS.—A correspondent of the Horticulturist at Washington City, states that he has been most successful in wintering *Verbenas*, by simply covering them with a hot-bed frame. It was placed over them just as they stood; those which were taken up and transplanted under the frame mostly failed. This protection would not be sufficient for the winters further north.

Mankind are very odd creatures. One-half censure what they practice, the other half practice what they censure.

The Veterinary Department.

Black-Leg in Cattle.

Sometime since, we received a request for information in regard to a disease in cattle called black-leg. Not being practically acquainted with the disease, we submitted the request to Dr. Dadd, of Boston, who has obligingly furnished us with the following remarks. Dr. D.'s system is in some respects new to us, and is probably so to some of our readers. We are not prepared to offer an opinion in regard to his peculiar views, but leave them to fair consideration. Eds.

Eds. Cultivator—Before I answer the inquiries of your correspondent, permit me to give you the outlines of our phynological or reformed practice and theory of disease. We contemplate the animal system as a perfect piece of mechanism, subject to life and death; that while the vital power has free and unobstructed action, the animal is in a physiological or healthy state; but when by any means the vital power is obstructed, by over feeding, exposure, &c., it is in a diseased or pathological state.

We recognise a conservative or healing power in the animal economy, whose unerring indications we endeavor to follow. Our system proposes, under all circumstances, to restore the diseased organs to a healthy state, by co-operating with the vitality remaining in the organs, by the exhibition of sanative means; and under all circumstances, to assist and not oppose nature in her curative process.

Poisonous drugs, blood-letting, and processes of cure that contemplate destruction of parts, or in other words, act pathologically, cannot be used by us. The laws of animal being are physiological; they never were or ever will be pathological, hence we co-operate with nature and nature's laws.

It is clearly evident that disease is an unit—that all its different manifestations depend on local or constitutional peculiarities. In the animal, there are numerous tissues to be obstructed; and if the disease were named from the tissue, it would have as many names as there are tissues. If it were named from the location, it would have as many names as there are locations, as horn-ail, black-leg, quarter-evil, foot-rot, &c. If it were named from the symptoms, it would be numberless, and boundless. It is of no use to decide what particular nerve, blood vessel, or muscle is diseased, seeing that the proper and only rational treatment consists in acting on all the nerves, blood vessels and muscles. But suppose we do ascertain exactly the location of the disease, have we any specific that will act upon it, other than through the healthy operation of nature's secreting and excreting process? We answer, that there is no such thing as a *specific*, in the popular sense of the term. Any medicine that is good for a practical symptom in disease, is equally good for any and every symptom, provided its action is physiological.

The indications of cure, are to relax spasm, as in lock-jaw, stoppages of the bladder, or intestines, obstructed surfaces, &c. To contract and strengthen weak and relaxed organs, as in general or local debility, diarrhœa, scouring, lampas, &c. To stimulate inactive parts, as in the black-leg, quarter-evil, foot-rot, &c., where chemical agency has gained the supremacy over vital action. To equalise the circulation, and distribute the blood to the external surface and extremities, as in congestions. To furnish the animal with sufficient nutriment to build up the waste that is continually going on, and prevent friction. No matter what the nature of the disease, the treatment should be conducted on these principles. Finally, to relax, to contract, to stimulate, and to furnish the system with the proper materials for nutrition, constitute the whole *modus operandi* of the reformed practice.

With these preliminary remarks, we will return to your subscriber's communication, in which he states that he has lost several calves within a few days by black-leg, and knowing of no medical treatment for the disease of any value, has searched the back columns of *The Cultivator* in hopes to find something recommended as a specific, [there is none in existence] but has found nothing except what is contained in the March number for 1847, vol. 4, p. 98. Regular and good feeding is there recommended as a preventive.

Good and judicious feeding, with proper attention to the management of calves, is one of nature's preventives. Dr. White, a veterinary surgeon of London, observes—"In horses or cattle, it is probable that almost all diseases may be prevented by judicious management with regard to feeding, breeding, rearing and exercise." Again, Dr. Dixon observes—"Nature is ever busy, by the silent operations of her own forces, endeavoring to cure disease. Her remedies are air, warmth, food, water and sleep; their use is directed by instinct, and that man is most worthy of the name of physician, who most reveres its unerring laws."

Black-leg, quarter-evil, joint murrain, black-quarter, and dygangrene, are analogous: by the different names is meant their grades. In the early or mild forms, it consists of congestions in the veins or veinous radicels, and effusions in the cellular tissue; when chemical action overpowers the vital and gets the ascendancy, it assumes a putrid type, and gangrene is the result, or a destruction of organic integrity. Its proximate cause exists in any thing that can for a time, intercept the free action of the vital machinery. Its direct cause may be found in over-feediing, exposure in wet situations. The milk of diseased cows, is a frequent cause of disease. Men who are engaged in preparing cattle or calves for the market, attempt to fatten without any regard to their general health, climate, the quantity of food, its quality, or the state of the digestive organs. They are very apt to think that as long as the animal has what they term "good food," and just as much as they can cram into the stomach that they must be healthy and will fatten, when in fact, too much food oppresses the stomach, impairs and overworks the digestive organs, and converts the food into a serious cause of disease. Whenever the digestive powers are overtaxed, the food accumulates in the stomach and its appendages, and being submitted to the combined action of heat and moisture, gas is evolved which distends the vicera, interferes with the motion of the lungs and diaphragm, presses on the liver, and interrupts the circulation of the blood through that organ, seriously interfering with the bile-secreting process. This is not all, the gas evolved from the putrid mass in the stomach, is absorbed, and enters into the cellular structure, hence emphysema, &c.

Your correspondent observes—"My calves are well fed and in good order, and those that fell victims were in the best condition." The old maxim, an ounce of preventive is worth a pound of cure, is true; and I have no doubt your correspondent, if he makes the trial, will find it more convenient and less expensive. The reason why disease manifests itself in the extremities, is because they are more exposed to damp ground, and because the blood, in returning to the heart, has a kind of up hill work to perform, hence it accumulates in the veins. Now, although we observe alarming symptoms in black-leg, it is no more a disease of the legs, than it is of impaired digestion, absorption, secretion, and circulation, for the whole functions are involved, and the cure of black-leg is the cure of all other maladies.

There is no particular treatment for black-leg, other than we have already alluded to, viz., to impart healthy action to the whole animal system, and to remove the direct cause. If the animal has been over-fed with a view of fattening, reduce the quantity of food, give mucilage of slippery-elm, and rub the leg with tincture of capsicum.

Our advice to farmers is, let your animals have their meals at regular hours, in sufficient quantity, (and not a particle more;) if they waste it, put less before them each time, until they eat the quantity given, without waste; let them have good beds of straw on which to rest their limbs; do not permit them to breath the emanations that arise from the dung and urine; keep them clean, and avoid undue exposure. Finally, govern them in a spirit of kindness and mercy, and there will be little foothold for disease. G. H. Dadd. *Boston, Jan.* 1850.

Blind Teeth in Horses.

Eds. Cultivator—Some two or three years since, I did myself the pleasure of giving you my experience on the subject of Wolf or Blind Teeth; since which time no actual case has occurred under my observation till lately. I now send you enclosed a Wolf tooth, extracted from the upper jaw of a horse of mine, immediately in front of the grinders. I had observed a considerable degree of inflammation in the eye of this horse, and a thin film was gradually forming, which threatened its destruction. I tried various remedies in vain, when I discovered the Wolf tooth, situated as above described, which being extracted, the eye rapidly recovered, and is now entirely well.

As the existence of these teeth, and their effect upon the eye of the horse has been doubted by scientific men, I send you the tooth and state the facts, leaving it for science to say what is the connection between the cause and the effect. Wm. Little.

Carbon as food for plants.—Mr. J. W. Rogers says he was refused the gold medal offered, a few years since by a public body in Ireland, because he had set forth that carbon, given to the roots of plants, would invigorate them. He observes—'This was then deemed a fallacy, but I am happy to say, any one may now allege the same without being laughed at. At that period, a popular chemist had set it down 'that all plants depended upon the atmosphere for the carbon they contained,' but the leading chemical writer of the present day says very differently. Brande states, in the 6th edition, published 1848, that 'although the accumulation of decaying matter which chemists call *humus* performs an important part in vegetable nutrition, it is not by its direct absorption and assimilation, but by its influence as a source of carbonic acid, which is partly taken up by the juices of the roots, and partly evolved into the atmosphere, so that plants, independent of their leaves, can thus receive carbonic acid."

The idle man is the devil's hireling, whose livery is rags, whose diet and wages are famine and disgrace.

He is a fool who makes his doctor his heir.

Business Notices.

Our Premiums.

It should be remembered that competition for the following list of Premiums, payable in Books, or in Implements or Seeds from the Albany Ag. Warehouse, is open till the 20th of March next, viz:

1. To the one who shall send us the largest number of subscribers to the Cultivator for 1850, with the pay in advance, at the club price of 67 cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS

In addition to the above, a copy of Thomas' "American Fruit Culturist, price one dollar—a very valuable work just published—to every agent who sends us Fifteen subscribers and $10, and who does not obtain one of the above prizes.

The American Fruit Culturist.

This work has been sent by mail, only to such Agents as have requested it. Many have sent us 15 subscribers, entitling them to the work, who have said nothing about its being sent; and we have taken it for granted that they intended to procure more subscribers, and to be competitors for a higher prize. We therefore give notice that the work will be sent by mail only where specially requested, and that we will send it in any manner desired, and at any time, to any person who has sent 15 or more subscribers for this volume.—The postage on the work is only 21½ cents, to any post office in the United States.

To Postmasters and other Agents.

Some of our Agents seem not fully to understand the terms of *The Cultivator*, to clubs; we state,

1. That in forming clubs, it is not necessary that all the papers for one club should go to one post office. They will be sent to as many different offices as required.
2. It is not necessary that for a club of seven or fifteen, all the copies should be ordered at once. Any one will be entitled to seven copies after paying $5, though he sends but one at a time. For instance, when a Postmaster sends us $2 for two copies, he will be entitled to five more copies for $3, making 7 copies for $5. So when an Agent sends $5 for 7 copies, he will be entitled to 8 more copies for the second $5. making 15 copies for $10.
3. When an Agent has sent $5, for 7 copies or $10 for 15 copies, he will be entitled to any *additional* copies he may order at the rate of $2 for three copies.

Postage of the Cultivator.

In answer to several inquiries, we repeat the statement so often made, that *The Cultivator*, when sent without cover, is subject to *newspaper postage only*—that is, one cent within the State, and 1½ cents if out of the state, and over 100 miles from Albany. This question has been several times settled by the different Postmaster Generals. For Certificate of this, see Cult. for 1848, page 97.

Back Volumes of the Cultivator.

We can still furnish entire sets of *The Cultivator:*

First Series.—Ten vols., quarto—Price, bound, $10—Unbound, $8.

New Series—Six volumes, octavo, now completed—price, bound, $7.50—unbound, $6.

☞ Any of the Volumes, *except the one for* 1848, can be had separately.

The Horticulturist,

AND JOURNAL OF RURAL ART AND RURAL TASTE.

This popular work is edited by A. J. Downing, author of "Landscape Gardening," "Designs for Cottage Residences," &c. &c., and is published by the proprietor of "*The Cultivator*," each No. containing 48 pages, embellished by an engraved frontispiece and numerous other illustrations, at $3 a year. Three vols. are completed, and the fourth is now in course of publication. Price per vol., bound, $3.50—unbound, $3. When two or more vols. are taken, a discount of 50 cents per vol. will be made.

Franking Privilege of Postmasters.

We notice that many Postmasters, who are Agents for *The Cultivator*, pay the postage on their letters to us. It will be seen by the following letter from Hon. F. H. Warren, Assistant Postmaster General, that they are entitled to the privilege of *franking* their remittances:

Post Office Department.
Appointment Office, Dec. 31, 1849.

Sir—The Postmaster General, after careful consideration of the question as to the right of Postmasters that have the privilege of franking, to frank letters to publishers of newspapers covering money for subscriptions or the names of subscribers, has decided, that when the Postmaster is Agent for the publisher, he has the power to frank such letters, and his Agency will be presumed from the fact that he franks them. As no Postmaster has any authority to frank these communications but when he is such an Agent, it is proper to regard him as acting in that capacity when he so conducts, until information is received to the contrary. In doing this business, the Postmaster must be regarded as entirely the Agent of the publisher, and not of the Department. FITZ HENRY WARREN.

Notes for the Month.

Communications have been received, since our last, from Gleaner, W. L. Eaton, G. H. Dadd, S., Levi Bartlett, A. B., A Farmer, Agricola, Argus, A Subscriber, Mary, Calvin Stow, C. G. I., L. Durand, Jonathan Wood, C. E. G. (all too late for this month,) J. B. Garber, S. Tillotson, J. J. C.

Books, Pamphlets, &c., have been received as follows:

Proceedings of the St. John (N. B.) Agricultural Society for 1849, from Robert Jardine, Esq., President.

Northern Spy and Melon Apple, from Elwanger & Barry.

Belcher's Farmers' Almanac, for 1850, Halifax, N. S., from C. H. Belcher, publisher.

Proceedings of the Seneca County (N. Y.) Agricultural Society, for 1849, from John Delafield, Esq., President of the Society.

Sherwood's Manual for Magnetizing, with the vibrating magnetic machine, and for the magnetic treatment of diseases, from the publishers, Fowler & Wells, New-York.

New and Improved Poudrette of the Lodi Manufacturing Company, a pamphlet just issued by that company, 66 Dey-street, New-York.

Report of the Ohio Nurserymen and Fruit Grower's Convention, held at Columbus, Dec. 5, 1849.

Prof. Johnston's Address.—We give in this number, the address of Prof. Johnston, delivered before the N. Y. State Agricultural Society at Syracuse. It is hardly necessary for us to invite the attention of our readers to this document; we presume it will be read with avidity by all who have the opportunity; and like other emanations of the same prolific pen, it will be found replete with useful facts and suggestions, beautifully and forcibly expressed. To make room for the address entire, we have been obliged to use small type; but we think the advantage of having the whole in a body, will overbalance this objection.

State Fair.—It will be seen, by reference to the doings of the State Agricultural Society, that it has been resolved to hold the next Fair at Albany. We trust that our citizens will take timely hold of the matter, with a determination to make it, as it can be made, the best exhibition ever held in America. The Fair will be held on the 3d, 4th, 5th and 6th days of September.

Prof. Johnston's Lectures.—These lectures, of which a programme was given in our last number, were commenced at the Assembly Chamber of the Capitol on the evening of the 4th ult. They have been attended by large audiences, composed of several of the prominent members of the Legislature, and many of our most intelligent citizens—all of whom have been deeply interested and gratified with the admirable manner in which the various subjects have been treated. It is expected that the lectures will be printed shortly, and we shall endeavor to give them, or a portion of them, as soon as practicable, through our pages.

☞ The late hour at which we received the copy of Prof. Johnston's Address, and our desire to present it entire this month, has rendered it necessary to omit several communications intended for this No., as well as to curtail very considerably the department devoted to Horticulture.

☞ If " A Gleaner" will furnish us his name, we will address him privately on the subject of his communication.

" H. C. W."—Our correspondent, Hon. F. Holbrook, writes—" I wish you could induce ' H. C. W.,' of Putnam Valley, to try his hand oftener at writing for the Cultivator. He has a beautifully graceful and strong style, and I want to hear oftener from him. His light must not be hid under the the bushel nor his talent wrapt in a napkin." We earnestly second these sentiments, in which we will venture to say we are joined by *all* our readers.

Northern Spy and Melon Apples.—We are indebted to Messrs. Elwanger & Barry, of Rochester, for handsome specimens of these esteemed new varieties of apples. The Melon being in perfection at the time of its arrival, (first January) we had a better opportunity for testing its qualities than we have had before, and unhesitatingly pronounce it an excellent apple. The Spy is not yet ripe, it being a late spring fruit.

Albany Prunes.—We have received from Mr. John Lossing of this city, specimens of excellent dried prunes, produced by trees raised by him from seed brought from Germany.

Saxon Sheep.—In our last number, we noticed an importation of Saxon sheep by Messrs. Catlin & Smith. We have since had the opportunity of seeing these sheep, at the farm of Mr. Charles B. Smith, Wolcottville, Ct. In several respects they are quite different from most Saxons we have seen. They are evidently the result of extraordinary skill in breeding; and as sheep producing the finest quality of wool, seem to approach nearly to a standard of perfection. The ewes are from two to three years old. They are handsomely formed—have, generally, full briskets and broad loins. Their weight is from eighty-five to one hundred pounds each. The rams are larger, in the usual proportion. What will be their weight when fully grown, we cannot say; they are only yearlings, (lambs of 1848) and of course may be expected to become considerably heavier.

These sheep have not only very fine wool, but they are especially remarkable for the *evenness* of their fleeces; they have no coarse spots—the wool being fine *all over the body*, with but little variation in quality. We have samples taken from the neck, shoulder, middle of the back, hip, and thigh of the same sheep, which will give a better idea of the uniformity of the fleece, than anything we can say. The wool is generally thickly set; and we should think the weight of the fleeces, cleaned as has been customary with Saxon wool in this country, would average three pounds. Their appearance indicates good health and fair constitution. We have no doubt they will prove a very valuable addition to the sheep-stock of the country, and we trust the enterprising importers will find their investment in all respects satisfactory. We should be pleased to show the samples of wool to persons who may wish to see them.

Fine Fowls.—Our attention was lately called to a lot of beautiful game fowls, (about twenty pair,) bred by Mr. T. C. Abrahams, of West Troy, and which were about being sent to different parts of the country. We mentioned on a previous occasion, that Mr. A. had bred a portion of his fowls from a cross made with the English pheasant. He still continues this stock, in which many of the traits of the pheasant are distinctly visible. He has, also, several other varieties, one of which was brought from Mexico, and is said to be the same that Santa Anna held in great esteem. Another is the Earl Derby variety, so celebrated in England, characterised by the black breast, and purple band across the wing, with yellow legs.

Washing Sheep—Our correspondent " S. W.," of North Easton, Washington county, New-York, writes—" In conversing, recently, with a wool-grower of considerable experience, he gave me his mode of washing sheep, which is to use a wooden vat, with a small stream of water running into it just large enough to supply the waste in slopping over and in taking out the sheep. In this way the heat of the sheep warms the water, and the oil and soapy matter from the wool converts it into a kind of *soap suds*, which cleanses the wool far more effectually than clear, cold water. I would like to know how this idea squares with the experience of wool-growers generally."

Sale of the Bates Short-horns.—Geo. Vail, Esq., of Troy, informs us that he learns by letters he has just received from England, that the sale of the celebrated herd of cattle of the late Thomas Bates of Kirkleavington, Yorkshire, will take place in April or May next. The herd consists of about seventy head of bulls, cows and heifers, all of which will be sold without reserve.

The Van Allens.—We had the pleasure, last week, of entering on our books, a club of seven subscribers, all named Van Allen. They all reside in one neighborhood, in Bethlehem, in this county.

Profitable Sheep.—Mr. David St. John, of Bern, in this county, bought fifty sheep in July, 1848, at $1.12½ each—or $56.50; of these, he wintered forty-nine. There were twenty-three ewes in the lot, which in 1849, reared twenty-five lambs. The same season, the forty nine sheep sheared 228 pounds of wool, of which 213 lbs. were sold for the gross amount of $48. He sold in June last, to the Albany butchers, nineteen old sheep, (wethers) and ten lambs for $48; thus making the gross amount of sales, $116—and he has thirty old sheep and fifteen lambs (yearlings,) or forty-five in all, left, which are worth more than the first stock.

☞ Mr. L. B. Maltby, of Bristolville, Trumbull county, Ohio, writes—"I would as soon think of doing without my bread, as without The Cultivator. Five hundred dollars would not cover the benefit I have derived from the articles contained in it, on the dairy alone."

☞ A couple of pages of "Monthly Notices," and "Notices of New Publications," in type for this No., are necessarily omitted.

Prices of Agricultural Products.

New-York, Jan. 21, 1850.

FLOUR—Genesee, per bbl., $5.50a$5.62½—Extra Genesee and Ohio, $5.75a$6.50.

GRAIN—Wheat, Genesee per bush., $1.23a$1.28—Common and good Ohio, $1.00a$1.11. Corn, Northern, 63c.—Southern and Jersey, 61c. Rye, 62½c. Barley, 60a61c.—Oats, 42a45c.

BUTTER—best, per lb., 19a22c.—Western dairy, 15a17c.

CHEESE—per lb., 6a7c.

BEEF—Mess, per bbl., $8.50a$9.50—Prime, $6a$6.75.

PORK—Mess, (new) per bbl., $11.25a$11.50—Prime, $9.

LARD—per lb., 6¼c.

HAMS—per lb., Smoked, 7a9c.

HOPS—first sort, per lb., 17a18c

COTTON—Upland and Florida, per lb., 12½a14c.—New Orleans and Alabama, 12¾a14¼c.

WOOL—(Boston Prices.)

Prime or Saxon fleeces, per lb,	40a43c.
American full blood Merino,	35a37
do half do	30a32
do one-fourth do, and common,	27a29

Remarks—The weather at New-York has been unfavorable for trade, and the market is rather heavy. Holders of flour anticipate an advance by the next steamer, and are, consequently, disposed to hold to present prices. Corn is firm, with a moderate supply. In provisions, pork is in moderate demand, though prices tend downward.

NEW-YORK CATTLE MARKET.

Monday, January 21.

Offered, 1,200 Beeves, (340 Southern, the remainder from this State,) 60 Cows and Calves, and 5,500 Sheep and Lambs.

Beeves.—The inclement state of the weather to-day prevented the usual attendance of trade, and the market consequently closes very dull. Prices, however, show no falling off. We quote retailing qualities at $6. It was estimated that full 400 head would be left over unsold.

Cows and Calves.—Market dull and inactive. Sales at from $22.50 to $30a$40. Unsold 15.

Sheep and Lambs.—Sales at from $1.75 to $3 to $5.75, which is a slight advance. 200 unsold.—*Tribune.*

BRIGHTON CATTLE MARKET.

Thursday, Jan. 17.

At market, including those remaining from last week, 950 Cattle of all descriptions—37 remain unsold at this time,—Friday morning, 10 o'clock.

Prices of Beef Cattle were much as last week. Drovers asked more in the morning, but it was no go. A very few at $6.25. Good at $5, and very good at $5.25a$5.75. Lower grades from $5 down to $3.50, as in quality. Some of the salesmen reported a little more animation, and a shade higher price, upon ordinary cattle. Western drovers reported heavy losses.

Sheep and Lambs, 2440 at market.

Prices. $1.75, $2.00, $2.25, $2.50, $3.00, $3.50, $4.00, $5.00.

Swine. But few at market. No change in price—4½a5½ at wholesale, and 5a6 at retail.—*Plowman.*

Highland Nurseries, Newburgh, N. Y.

Late A. J. Downing & Co.

20,000 Apple Trees of the most approved varieties, for sale, (of *extra size*, from 8 to 12 ft. high, and 3 to 5 years' growth,) at $20 per hundred.

Persons wanting trees to sell again, will be dealt liberally with.

Feb. 1, 1850—3t. A. SAUL & CO.

A Devon Bull for Sale.

THE subscriber offers for sale his full bred Devon Bull, from the best stock in the country.

Any one wishing to purchase such an animal will do well to call at an early opportunity. JOHN E. COWLES.

Farmington, Ct., Feb. 1—1t.

Selling off to Close the Business.

LINNÆAN BOTANIC GARDEN & NURSERY, late of Wm. Prince, deceased. Flushing, L. I., near New-York. Winter & Co., Proprietors.

In consequence of the decease of the Junior, and of the advanced age of the surviving partner, the entire stock of this establishment, comprising every description, including the newest and choicest varieties of

Fruit and Ornamental Trees,

Shrubs, Vines, Plants, Roses, &c., will be disposed of *for cash*, at a Reduction of 25 to 50 per cent from the usual prices, according to kind and quantity. Young Stock, Ornamental Shrubs, Pæonies, Herbaceous Plants, &c., *very low* by the quantity.

Descriptive Catalogues gratis on application, post paid.

Feb. 1—1t.

Fruit Scions for 1850.

THE subscriber can furnish scions for grafting of the choice fruits of Western New-York. They can be sent by mail or express, and when possible, I will send sample apples:—

"Northern Spy," apples,
"Norton's Melon,"
"Early Joe,"
"Swaar,"
"Esopus Spitzenberg,"
"Fameuse,"
"Bomme Gris,"
"Baldwin,"

And the "Wagener" variety, to which the State Society awarded a premium of $5.

Price for Scions one dollar per hundred.

Applications, post paid, shall have immediate attention.

Rochester, Feb. 1.—1t.* JAMES H. WATTS.

Take Notice.

THREE Months Extra Pay and One Hundred and Sixty Acres of Land will be procured for all who enlisted for five years, or during the war of 1812, and for all, including Volunteers who served in Mexico, and for the heirs of all who have died in the service.

Information will be given to relatives, Free of Charge, by writing to G. F. LEWIS, Detroit, Michigan, (postage paid.)

Those who do not know what became of their friends, write when and where they joined the army. Feb. 1—3t.*

Poudrette.

THE LODI MANUFACTURING CO., offer their new and improved Poudrette, for sale at their usual rates:—1 bbl. $2—3 bbls. $5, and $1.50 per bbl. for any quantity over 7 bbls., delivered free of expense on board of vessel in New York. At the Factory, where vessels drawing 8 feet water can come, it will be sold at 25 cents per bushel.

The expense per acre in manuring corn with Poudrette, will amount to about $4, calculating 25 cents per bbl. freight, and all the necessary labor included. On land previously manured, or on good sward land, one gill to the hill is sufficient—on poor ground, a good crop can be raised by one gill at planting, and one at the last hoeing. The cost of the labor alone in manuring corn in the hill with barn yard manure, will amount to more than the first cost of the Poudrette, with freight and all charges added; and the effects of Poudrette are quicker, more vigorous, and the corn reaches maturity earlier. A fair trial, *however small*, is respectfully solicited.

A pamphlet containing instructions for use, certificates from some of the first Agriculturists in the United States, and much valuable information will be sent *gratis*, to any one applying (*post paid* if by letter,) to "The Lodi Manufacturing Company, 66 Dey street, New-York." Feb. 1—4ms.

Lynchburg (Va.) Land Agent.

THE undersigned has on hand, for sale, FIFTY PLANTATIONS, lying in this section of the State—say from two to one hundred and fifty miles from Lynchburg. Prices from three to twelve dollars per acre. Mountain land, from thirty-five cents to two dollars. All communications, post-paid, promptly attended to.

Lynchburg, Va., Feb. 1—2t* BENJAMIN WILKES.

Wanted.

A YOUNG man with a small family to take charge of a nursery, who has some knowledge of farming, and is thoroughly acquainted with the propagation of Fruit Trees.

He must be well recommended as a man of integrity, and to be moral and temperate in his habits. None other need apply.

RUFUS WHITTIER.

Chickopee, Mass., Feb. 1, 1850.—3t.

Highland Nurseries, Newburgh, N. Y.

(*Late A. J. Downing & Co.*)

THE PROPRIETORS beg leave to inform their patrons, and the public in general, that their stock of

Fruit and Ornamental Trees, Shrubs, Roses, &c.,

For Spring planting, is unusually large and thrifty, and embraces all of the best varieties introduced into notice in this country or Europe; of Apple, Pear, Plum, Cherry, Peach, Nectarine, Apricot, Grapevines, Gooseberry, Currants, Raspberry, Strawberry, &c., &c.

Portugal Quince trees, standards, extra size, each....	$1 00
do. do. quenouille, do.	1 00
Angers, (true,) extra..............................	1 00
Trees of the usual size............................	0 50

Also, *Pears* on Quince, and *Apple* on Paradise stocks, for dwarf trees.

The stock of Ornamental Trees, Shrubs, &c., is very large; and quantities to dealers, or planters on a large scale, will be furnished at greatly reduced rates.

Hedge Plants.

A large stock of Buckthorn, and Osage Orange plants.

Also, a large stock of Rhubarb and Asparagus roots.

The entire stock has been propagated under the personal supervision of A. SAUL, whose long connection with this establishment is some guarantee, from the reputation it has gained, (and the present proprietors are determined to merit,) as to the genuineness and accuracy of the present stock.

Orders respectfully solicited, and will receive prompt attention, which will be carefully packed and shipped to any part of the Union or Europe.

Catalogues furnished gratis to post-paid applicants.

Feb. 1, 1850—3t. A. SAUL & CO.

To Fruit Growers and Nurserymen.

Spring of 1850.

THE subscribers invite the attention of Tree purchasers to their stock now offered for sale. By large importations from Europe, and an extensive scale of propagation in their own grounds, they are enabled to offer one of the most extensive and complete assortments, and on the most liberal conditions.

The well known health, hardiness and vigor of the trees grown here, and the undivided and scrupulous attention given to every department by the proprietors, in person, offer great inducements to purchasers.

Standard Fruit Trees,
Pyramidal and Dwarf Fruit Trees,
Gooseberries, Currants, Strawberries, &c.,
Ornamental Trees and Shrubs,
Roses, Dahlias, &c.
Hedge Plants, including large quantities of Buckthorn and Osage Orange.
Stocks for Standard and Dwarf Trees,

And all other nursery articles; besides a large collection of

Green House, Border and Bedding Plants.

Wholesale priced lists sent *gratis* to all post paid applications. A separate catalogue for 1850 of *Roses*, *Dahlias*, and other new and rare articles will also be furnished.

ELLWANGER & BARRY.
Mount Hope Garden and Nurseries, Rochester, N. Y.

Feb. 1, 1850.—1t.

The American Poultry Yard,

BEING a History and Description of Various Kinds of Domestic Fowls, with complete directions for their Management, Breeding, Crossing Rearing, Feeding, and Preparation for a Profitable Market. Also, their Diseases and Remedies. And complete directions for Caponising. Arranged from the best authorities in Europe and America.

Illustrated by numerous original engravings. Forming the most Practical Manual for those who are desirious of raising poultry, that has been published in this country. Price $1, bound.

Published by C. M. SAXTON, 121 Fulton st., New-York,
And for sale at this Office.

Also, Allen's American Farm Book, $1.
Allen's Domestic Animals, 75 cents.
Miner's Am. Bee Keeper's Manual, $1.
Gunn's Domestic Medicine (117th thousand,) $3.

Jan. 1, 1850.—2t.

Stocks, Scions, Evergreens, Strawberry Plants, &c.

B. M. WATSON offers for sale at the *Old Colony Nurseries*, PLYMOUTH, MASS., Stocks of Fruit Trees of first rate quality, suitable for spring grafting and budding in the coming summer, at the annexed prices per 1000. Apple, 1 year, strong, $5; 3 years, transplanted, $10—Pear, 1 year, $8; 2 years, $15; 3 years, transplanted $20—Plum, 2 years, $15—Cherry, 2 years, $12; 3 years transplanted, $15—Quince, large and fine, $18; 1 year, strong, $12—Mahaleb, strong, $25—Paradised, strong, $25—St. Jean, (dwarfer) $5 per 100. Ash, Maple, Laburnum, Lime, SpanishChestnut, Poplar, Mountain Ash, Elm, Alder, &c., &c., 4 feet, at $3 to $8 per 100. Arbor Vitæ, Norway Spruce, Scotch Fir, Balsam Fir, Silver Fir, Larch, Red Cedar, 1 to 2 feet, $5 to $10 per 100.

SCIONS. Apple scions, (fine sorts) $1.50 per 100. Paradise cuttings $8 per 1000. Scions of the finest sorts of pear of established reputation (say 30 sorts,) and of other fruits, $2 per 100, $15 per 1000.

STRAWBERRIES. Burr's New Pine, $4 per 100; Boston Pine, $1; Hovey's Seedling, $1; Richardson's Early, Late and Cambridge (fine sorts) $1.50 per doz.; Early Virginia Scarlet, $1 per 100; Jenny's Seedling. $3; Aberdeen Beehive, $5; Swainstone, $3; Myatt's Eliza, $2; Crimson Cone, $2; Black Prince, $5; Deptford Pine, $3; Princess Alice Maude, $3; Keene's Seedling, $2; Willey's Seedling, $3; White wood, $1;—25 cents to $1 per dozen.

Also, Dwarf and Standard Pears, select Shade Trees, Shrubs and Climbers; Weeping Trees for lawns, Roses, Phloxes, Verbenas, Chrysanthemums, and other fine plants for masses, at low prices, of which a priced list will be sent, post paid, on application.

Also, Pear seed of prime quality.

Feb. 1, 1850.—3t.

New Scarlet Verbena—Robinson's Defiance.

J. M. THORBURN & CO., 15 *John street, New-York,*

HAVE now ready for delivery, strong plants of the above splendid Verbena, the finest in England, from whence they obtained it last June, fully testing its quality during the summer. The bloom is of the most vivid scarlet, with fine foliage, and so far from being injured by the heat of the sun, was rather improved, and continued a mass of flowers, rapidly covering the ground, while most others were destroyed by the heat, nor ceased to flower in profusion till checked by frost at the end of October—after which, being taken up and removed into the greenhouse, flowered away till December, and is now (January 21) fully out for a long succession of bloom.—It may be seen in perfection very soon by any one who will take the trouble to visit Astoria.

TESTIMONIALS.—*Gardener's Chronicle*, (Dr. Lindley,) Aug. 28.—"Robinson's Defiance" is a most brilliant flower—fine in form and a good trusser—best of its class.

Gardener's Journal, Sept. 4.—"Robinson's Defiance"—beautiful variety—form good—segments of the corolla broad, firm in substance and flat—color, a brilliant scarlet—habit of the plant good, and a free bloomer.

The Gardener, Sept. 18.—"Robinson's Defiance" is a superior variety, the petals are stout, the flower and truss large and well formed—color, a clear vivid scarlet—the plant is a strong and free grower, with a fine foliage and superior habit—we have not seen its equal.

It received first class certificates and the highest commendation at the following exhibitions—"Royal South London," Sept. 15—"Slough," Sept. 21—"Norwich," Sept. 23—"Metropolitan," Sept. 28—and the "Chelsea Society."

The habit of the plant is equally adapted for potting or bed culture, being short jointed with remarkably fine foliage, and a free bloomer. A large Italian vase filled with it at Astoria last summer, was the most striking object in the garden, and was adored by all gardeners and amateurs who observed it. It was first sent out in England in the Spring of 1848 at 7s 6d sterling per plant, but was not successfully imported here till last season.

A good stock of this beautiful Verbena, (*warranted to answer description*,) being now ready to send out, orders will be promptly executed with strong healthy plants at 50 cents each—$5 per dozen—six at same rate—with a liberal discount to the trade when a dozen or more are ordered.

Also the following additional new Verbenas, from England:

ANACREON—large bright rose, good habit and fine foliage, free bloomer and close set, pretty eye.

BARKERII—scarlet crimson, good spreading habit and profuse bloomer.

ROSY MORN—light rosy crimson, large compact truss, good eye and free bloomer—a beautiful variety.

SATELLITE—orange scarlet, exquisite form and trailing habit, well adapted for large pan pots or vases—foliage soft, serrated, and of a feathery style, extra fine—50 cents each—or if the set of *four* is ordered. $1.50—have been proved a season, and fully answer description.

The following approved older sorts, $1.50 per dozen—Beauty Supreme, Flambeau, Fireball, Major Ringgold, Mestosa, Mary Anne, Othello, Polk, Queen, Roseum Elegans, Smith's Blue Bonnet, and others well adapted for bedding out or in patches.

PETUNIAS—Hebe, Eliza, Beauty of Yorkville, Duke of Bedford and other good sorts—$2 per dozen.

DAHLIAS in dry roots—all the prize sorts exhibited at Castle Garden last October—$5 to $15 per dozen.

☞ Plants of the new Verbenas can readily be sent by mail; by shaking off the soil a half dozen will not weigh over an ounce; by immediate potting on arrival and trifling care, will recruit in three or four days and be in advance and superior condition for turning out in the month of May—of course, much earlier, further south.

Feb. 1, 1850—2t.

For Sale,

TWO Short Horn Bull Calves, 1 year old in April next. Both are descended from the bull Yorkshireman—bred by the late Thomas Bates, Esq. In color, one is red, the other red with a little white.

Letters of inquiry, post paid, attended to. J. M. SHERWOOD.
Auburn, Feb. 1—2t.

The American Fowl Breeder,

A New and Valuable book,

CONTAINING full information on Breeding, Rearing, Diseases and Management of

Domestic Poultry,

And instructions concerning the choice of pure Stock, Crossing, Caponising, &c., &c., *WITH ENGRAVINGS.* By an association of Practical Breeders.

The above valuable work is just published by John P. Jewett & Co., Cornhill, Boston, and it is offered at the extremely low price of *Twenty-five Cents* per copy, to bring it within the means of every man interested in Poultry.

☞ *We want 100 Good Faithful Agents,* ☜

To sell this work in every county in New England, New-York, Pennsylvania and the West, in connection with

Cole's American Fruit Book,
AND
Cole's American Veterinarian.

Active and intelligent men can make money at the business.

Address, post paid, the publishers.

JOHN P. JEWETT & CO.,
Cornhill, Boston.

P. S. The American Fowl Breeder is done up with thin covers, and can be sent by mail to any part of the country. Any person sending a quarter of a dollar by mail, *post paid,* shall receive a copy of the book.

Feb. 1—3t.

A New Patent Compressing Churn.

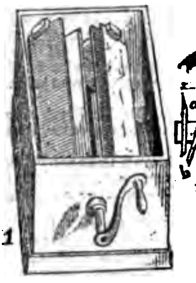


Fig. 1

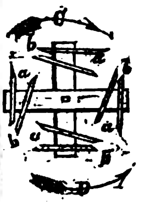


Fig. 2.

FEW of the many recent inventions denominated Churns, have merited the recommendations published by interested parties, and too often the favorable opinion of the press. In fact, not more than one or two of the many kinds have been worthy of being manufactured; the only object of the patentees seeming to have been to hawk about the country selling *Patent Rights* for what they could get, which once sold, ends its existence, so far as the public are concerned, the purchaser of the patents only regretting he ever meddled with it.

On the contrary, our own course has ever been, to sell or recommend only such articles to the farming public, as we know from our long experience in selling and manufacturing, to be well worthy of the recommendations given them through our advertising. The *Kendall*, the *Thermometer*, and the *Common Dash* churns having composed our assortment, for want of better kinds.

Until the improved churn, represented by the cut at the head of this advertisement came to our notice, we have not offered any thing new. This, although a recent invention, has been thoroughly tested during the past season, by a goodly number of dairymen in Chenango and Orange counties, with unprecedented success; so much so, that we hazard nothing in pronouncing it the most desirable churn now before the public.

Its construction is simple, having four pairs of broad blades or beaters all confined together, so set as to pass edgewise through the cream, as represented in fig. 2, (end view,) these floats, when turned in the direction of the arrow *C*, cause the cream to be compressed, and pass between the blades from *a* to *b*; this motion being continued until the butter will not pass through the openings at *b*; then, by reversing the motion, the bevel of the inner blade serves to throw the whole contents to the centre, where the butter rapidly forms into one solid mass, until the separation is complete. The floats may be instantly removed, and the butter taken out.

It received a *Silver Medal* at the fair of the American Institute, held at New-York, for being, in the opinion of the committee, the best churn ever offered for competition—nearly every other kind in use being in the same exhibition.

Some of the improvements in this churn, are:—There is no shaft through the centre. This form of float passes easily through the cream, and at the same time produces a greater amount of agitation than any others in use. This process of compressing and collecting the butter from the cream is not excelled by any previous invention.

They are offered at about the same prices, according to size, as Kendall's churns, and a liberal discount allowed to dealers. All are warranted to give satisfaction, or may be returned.

Albany Agricultural Warehouse and Seed Store,
No. 369 & 371 Broadway.
Albany, February 1, 1850. H. L. EMERY.

Farms for Sale.

THE Subscriber has several improved farms from 24 to 100 acres each, in Milton, Saratoga county, which he will sell for one-third cash, with a credit of five to ten years on the balance. The produce can nearly all be marketed in the immediate neighborhood, at Albany or Troy prices. Farm or carpenter work would be received for two-thirds or three-fourths of the smaller parcels. Several sober and industrious carpenters would find constant employment at good wages. For further particulars address (post-paid) Ballston Spa, N. Y.

Feb. 1, 1850—1t* SETH WHALEN.

JUST PUBLISHED,

BY DERBY, MILLER AND CO., AUBURN.

THE AMERICAN FRUIT CULTURIST,

BY J. J. THOMAS,

CONTAINING directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the principal American and Foreign Varieties cultivated in the United States. With 300 accurate illustrations. One volume of over 400 pages, 12 mo. Price $1.

A cheaper, but equally valuable book with Downing's was wanted by the great mass. Just such a work has Mr. Thomas given us. We consider it an invaluable addition to our agricultural libraries. *Wool Grower.*

We predict for it a very rapid sale; it should be in the hands of every fruit grower, and especially every nurseryman. It is a very cheap book for its price.—*Ohio Cultivator.*

It is a most valuable work to all engaged in the culture of fruit trees.—*Utica Herald.*

It is a book of great value.—*Genesee Farmer.*

Among all the writers on fruits, we do not know of one who is Mr. Thomas' superior, if his equal, in condensing important matter. He gets right at the pith of the thing—he gives you that which you wish to know at once; stripped of all useless talk and twattle. No man has a keener eye for the best ways of doing things. Hence we always look into his writings with the assurance that we shall find something new, or some improvements on the old; and we are seldom disappointed. This book is no exception. It is *full*. There is no vacant space in it. It is like a fresh egg—all good, and packed to the shell full.—*Prairie Farmer.* Jan. 1, 1850.—3t.

Horse Powers and Threshing Machines.

E. PLANT, No. 30 Cedar Street, New-York, Agent for the Proprietor, for making and selling the "Warren" Improved Two and Four Horse Powers and Threshers. Also, "Trimbles."

Price of the "Warren" Two Horse Power and Thresher, only $80
do do Four do do do $110
Price of the "Trimble" Two Horse Power, (without Thresher,) $60
do "Warren" do do do do $50
do do Four do do do $75
Bands, from $4.50 to $6.

These *latest Improved* Threshers and Powers give universal satisfaction, and are deemed far superior to any others known heretofore for any thing like their cost.

Cash Orders filled promptly.

N. B. *PURCHASING & COMMISSION AGENCY.*

The undersigned also continues the business of the late E. Plant & J. Plant, (E. Plant & Co.,) of Purchasing for Orders, on Credit or for Cash, Dry Goods, Groceries, Hardware, &c., &c., for a commission of 2½ per cent. Produce, such as Sugar, Cotton, Tobacco, Peltries, &c., also received and sold on Commission. E. PLANT,

Dec. 1, 1849—6t. No. 30 Cedar St New-York.

Good Opportunity for Situation.

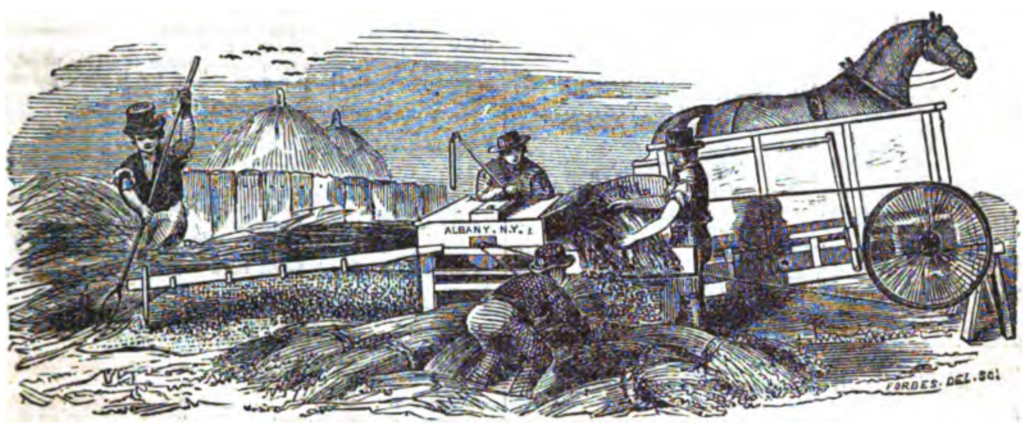
A GENTLEMAN in *Eastern Va.*, desirous of engaging in other pursuits for 8 or 10 years, wishes to arrange with some intelligent, upright, industrious, persevering farmer, from the north,—one who can come well recommended in every way, to take charge of his farm on the 1st March next, for a term of years, upon shares.

Said farm is within easy distance of the markets of both Petersburg and Richmond, and near James river. It contains 500 acres—300 arable, well marled; 50 acres of unclaimed meadow, 20 reclaimed, 5 in grass, 150 well set in clover; is excellent wheat, corn, and clover land, and easy to work and improve. There is 100 acres seeded in wheat. The land is well adapted to grazing, and has a fine range for sheep. There is a young orchard—400 choice apple trees, usual stock—utensils, &c.; good house, out-houses, garden, 2 barns, 400 feet of shedding for stock, 2 wells, &c. The farm is well watered. He wishes it converted, as much as possible, into a grazing and dairy farm. He will furnish 6 hands, and provisions for one year, and furniture in house.

To any man who can come suitably recommended, and who is able to invest $2,500 in additional stock (cows or sheep,) and utensils, manures, &c., he will give one-fourth of the *clear profits* for ten years, and the value of the stock he put in at the end of ten years—or refund $2,500, and pay for all *permanent improvement* during that time. The farm must be improved as much as possible—as may be contracted. In selecting cows, it must be with a view to dairy; sheep, for wool and mutton. Any one coming, should bring persons skilled in dairy management. A peach orchard would be found extremely profitable. The entire management, except permanent improvements and alterations, will be given up to the party agreeing. Direct to P, Cabin Point, Va.

N. B. His reason for requiring an investment, is to make the party more interested. The farm can easily be made to realise $1,000 a year, or more, by good management. Hay commands $1, to $1.25. Butter, 20 to 25 cents. The farm is perfectly healthy.

December 1, 1849—3t.



PATENT PORTABLE RAILROAD HORSE POWER.

Patent Portable Railroad Horse Power,

And Overshot Threshing Machine and Separator.

THE above celebrated machines have during the past year been more extensively sold and introduced than during any year previous; and what is most gratifying to all interested, they have given most unqualified satisfaction.

Upwards of three hundred and fifty setts have been sold this season without supplying the demand.

With increased facilities over those of the past season, for the manufacturing, and some additional improvements in their construction and materials, they are now offered to the public with increased confidence in their superiority over all other threshing machinery, for the farmer's own use and economy.

Their durability is no longer questioned. They have been in use every season for the past seven or eight years, without any perceptible wear or expense other than the necessary oil, and a new plank flooring for every twenty thousand bushels of grain threshed by them.

Some of the advantages of these machines are:

Their portability and compactness, admitting of their use inside of barns during all weathers, thereby protecting both man and beast—and at the same time requiring no more room than for threshing with the flail.

The whole may be operated by the force usually about the farm, without calling together the whole neighborhood, thereby enabling the farmer to thresh his own grain, and at such times as best suits his own convenience, or take advantages of markets.

The One Horse Power, requiring, with a change of horses once or twice a day, but three men to thresh 75 to 100 bushels of wheat or rye, or double the quantity of oats or buckwheat per day. Or with the Two Horse Power, and two horses, without a change, and four or five men, double the amount per day.

The prices will be about the same as last season, viz:

For the One Horse Power, Thresher, Separator, Bands &c., complete, ... $120 00
Two Horse do., complete, ... 150 00

Portable Saw Mills, for sawing wood, slitting boards, plank, &c., for fencing or mechanical purposes, are also furnished when wanted, in complete running order, for $35.

All articles warranted to perform equal to the above representations, or may be returned and purchase money refunded.

For further particulars see catalogue of Albany Agricultural Warehouse, furnished gratis on application or by mail; or the agricultural papers and reports of agricultural socie ies for the past three or four years.

HORACE L. EMERY,
Nos. 369 & 371 Broadway, Albany, N. Y.

N. B.—JOHN MAYHER & CO., No. 197 Water Street, are the the only authorized agents for the above machines in the city of New York, of whom they may be obtained at the manufacturer's home prices.

CAUTION.—Since the above machines have become known and approved, and the demand for them greatly increased, manufacturers of other kinds have copied our descriptions, advertisements and engravings, with the difference of substituting their own names as makers instead of the original. To avoid mistakes, we state that the genuine machines may be known by the mark { Wheeler's Patent *July* 8, 1841. } distinctly stamped upon them; and on examination and comparison, it will be found the only simple Rack and Pinion Power, without *Intermediate Gearing*, that can be used for the OVER SHOT Threshing Machine, without *crossing* of the bands, statements, descriptions and advertisements to the contrary notwithstanding. In this difference alone, consists the chief merits of this machine, and it is this, (secured by letters Patent,) which has given them such decided advantages over all other chain powers in use. A single glance at the several kinds, will satisfy any person of the truth and necessity of this CAUTION.

Albany, February 1, 1850.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

The following are a part of the utensils kept for sale by us, which are considered the best in use, all of them having taken the highest premiums:—Wheeler's Railway Horse Power, Threshing Machines and Separators, Grant's Fanning Mills, of six different sizes, for Rice as well as Grain; Mayher's do.; Hovey's Spiral Hay, Straw and Stalk Cutters; Smith's Smut Machines and Buckwheat Cleaners; Beal's Corn and Cob Crushers, for Feed, horse power; Sinclair's Corn and Cob Crushers, for hand or power; Sinclair's Hay, Straw and Stalk Cutters, hand or horse power; Greene's Hay Cutters, 12, 18 and 24 knifes; Mayher's Hay and Straw Cutters, 8, 10, 12, 15, and 18 knifes; Wheeler's Stalk or Cane Cutter, Power Machine; Mayher & Co.'s Corn Shellers, single and double-hand or power; Burrall's Corn Shellers and Separators; Warren's do., wood and iron; Smith's Corn Sheller and Separator, (power,) 1200 Bushels per day; Virginia do. do., hand or power, 600 to 900 bushels per day; Sinclair's do. do. and Husker, power; Whitman's Horse Power, Threshing Machine and Cleaners; Taplins' Horse Powers; Mayher's do. do.; Emery's Threshing Machines, one and two horse power; Emery's Seed Sowers or Corn Planters; Emery's Saw Mill; Emery's Centrifugal Churns; Thermometer Churns, of different sizes; Cylindrical Churns; Atmospheric Churns; Self-Acting Cheese Presses; Hay Presses; Bachelor's Corn Planter; Seed Sowers of different kinds; Bark Mills; Cider Mills; Paint Mills; Coffee Mills; Corn Mills; Fitzgerald's Flouring Mills; Prentiss and Pages' Flouring Mills, Burr Stone; Mayher & Co.'s Eagle Improved Polished Plows, of different sizes and patterns; Worcester do.; Mayher & Co.'s common do.; Freeborn do.; Prouty and Mear's Plows of all kinds. Center Draught; Sub Soil Plows of different kinds and sizes; Side-Hill do; Double Mouldboard do.; Cultivators, Steel and Cast-Iron teeth; Geddes' Harrows; Ox Yokes and Bows; Single and Double Wiffletrees; Ox Scrapers, of Wood and Iron, large and small; Ox Carts; Farm Wagons; Mule Carts; Wheelbarrows; Canal Barrows; Field and Garden Rollers. Iron and Wood; Wheat Drills; Reaping Machines; Mowing Machines; Rice Hullers; Store Trucks; Ground Augers; Ox-leg and Trace Chains; Pickaxes; Grub Hoes; Rakes, Scythe Sneaths, Grain Cradles, Crow-Bars, &c., &c. In fact, we have every thing wanted for Farming purposes, got up in the best manner, style, workmanship, and of the very best material, of all the latest improvements. We have also for sale a large quantity of the best Seed and Spring Wheat, Oats, Corn, Barley, Rye, Peas, Beans, Turnip, Cabbage, Beet, Carrot, Parsnip, Onion, Radish, Asparagus, Clover and Grass Seed, raised expressly for us, and warranted fresh—a very superior article. We also have a large quantity of Guano, Bone Dust, Lime, Plaster and other Fertilizers on hand, Ornamental and Fruit Trees, Shrubs, &c., of the best quality, furnished to order. Also, Wire Cloth, of all kinds; Castings do., Steam Engines, Sugar Mills, Saw Mills, Shingle and Brick Machines, together with Force, Cistern, Well, and other Pumps.

JOHN MAYHER & CO.,
Feb. 1, 1850—tf No. 197 Water street, New-York.

Seedlings.

PEAR, Plum, Cherry, Quince, Apples, Horsechestnut, Mountain Ash, and Buckthorn Seedlings for sale. Also seed of the above kinds of trees. Every variety of Fruit and Ornamental Trees, and grafts of the celebrated Virgalieu Pear of Geneva. For sale at the Geneva Nursery, by

W. G. VERPLANCK.

Geneva, Nov. 1.—6t.*

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Fertilizers.

PERUVIAN and Patagonian Guano, Bonedust, Plaster of Paris, Poudrette, and Combined Manure, a new and excellent article.

A. B. ALLEN & CO.,
Feb. 1, 1850. 189 & 191 Water St., New-York.

Agricultural Implements.

THE largest and most complete assortment to be found in the United States, of Plows, Harrows, Rollers, Cultivators, Shovels, Spades, Hoes, Manure Forks, and Seed Planters.

A. B. ALLEN & CO.,
Feb. 1, 1850. 189 & 191 Water St., New-York.

Garden Tools and Pruning Implements.

A GREAT variety of these, of American and Foreign manufacture, constantly on hand. A. B. ALLEN & CO.,
Feb. 1, 1850. 189 & 191 Water St., New-York.

Field and Garden Seeds.

ENGLISH, *French*, *Dutch* and *Belgian* Field and Garden Seeds, fresh imported and warranted.

American Field and Garden Seeds of last years' crop, grown expressly for our establishment, and warranted true of their kinds.

A. B. ALLEN & CO.,
Feb. 1, 1850. 189 & 191 Water St., New-York.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,
Feb. 1—6ms. JOSEPH CALDWELL.

Kinderhook Nurseries.

THE proprietor begs leave to inform his patrons and the public in general, that his stock of

Fruit and Ornamental Trees, Shrubs, Roses, &c.,

For spring planting, is large and thrifty, and embraces all of the best varieties introduced in this country, of Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, Grape Vines, Gooseberries, Currants, Strawberries, &c.

Also, Hedge Plants.

A large lot of Buckthorn Plants, Locust, Privet, Box, &c. Asparagus roots, Rhubarb.

Orders respectfully solicited, and will receive prompt attention. Articles will be carefully packed and shipped to any part of the country.

Catalogues furnished gratis to post paid applicants.
Kinderhook, Feb. 1, 1850—2t. H. SNYDER.

Seeds for Spring Sowing and Planting.

500 bushels of superior Black Sea Wheat, pure, having been but one year raised in the States.

150 bushels of Clump wheat, a new article of spring wheat, of large berry, and said to be a good yielder, and is much grown in Canada.

150 bushels of Italian Spring Wheat.

100 bushels of Spring Rye.

75 bushels of very superior Broom Corn Seed.

A large supply of choice Clover and Timothy seed, a low prices, at wholesale or retail.

Garden and Field Peas, any quantity.

A fresh lot of Garden Seeds, wholesale or retail.

For sale at the Albany Agricultural Warehouse and Seed Store, No. 369 & 371 Broadway. Feb. 1, 1850. H. L. EMERY.

Louisville (Ky.) Seed and Agricultural Store.

THE subscriber offers for sale,
1000 bushels Kentucky Blue Grass seed,
800 " Red Top, "
200 " Orchard Grass, "
200 " Prime Timothy "
500 " " Red Clover "
200 " Hemp "
100 " Millet "
100 " Buckwheat "

Also, Lucerne and White Clover.

30,000 papers Garden Seeds, assorted, and all varieties of Garden Seeds by the pound.

50,000 Fruit Trees, consisting chiefly of Apple, Peach, Pear, Cherry and Quince.

Also, Grape Vines, Asparagus roots, Strawberry plants, &c., &c., from the nurseries of L. Young, H. P. Byram & Co., Jas. Orr, and G. G. Hikes of this vicinity.

He also keeps every variety of Agricultural and Horticultural Implements on hand, and will be happy to fill orders (accompanied with cash or satisfactory reference) from all parts of the United States.

Feb. 1—2t. A. G. MUNN.

Seneca Lake Highland Nurseries.

Catharine, Chemung County, N. Y.

DURING last Summer, an agent of a Rochester Nursery, was at some of the villages in this part of the State, procuring orders for trees, and to some if not all persons of whom he asked patronage, took occasion to introduce my name, by stating "that I purchased of that Nursery most of the trees I sold—that I had yearly at that place from eight to ten hundred dollars worth," &c., &c. And on the delivery of trees in the Fall, to counteract dissatisfaction on the part of those who had given him orders, falsely stated that I then owed it about $1000—he having manifested a great disregard for truth, and a most disrespectful propensity.

The facts are these:—In all my exchange and deal with any and all persons in this State, west of Cayuga Bridge, I never have purchased, had or received, $200 worth of trees.

Nothing but self-defense would induce me to notice this, for I do think that above all things, Nurserymen, who claim the least iota of patronage, ought to adopt, and strictly adhere, to rules of honesty and fair dealing.

Having 40 acres of Nursery and Standard Trees, I am well prepared to furnish at reduced prices, wholesale or retail, all kinds of FRUIT TREES cultivated in this climate, ORNAMENTAL TREES AND SHRUBS, GREEN-HOUSE PLANTS, &c., &c.

Trees carefully packed and forwarded by public conveyance to any part of the Union.

Being located within two miles of the Chemung Railroad, used by the N. Y. & Erie R. R. Company, their agent's receipt will be forwarded by mail on their delivery.

Packages going East or West will reach the Erie Railroad at Elmira, 16 miles South of this, and the Buffalo and Albany route at Geneva, 45 North, which makes it a very desirable location for sending trees by public conveyance.

Neither the Pear or Plum Blight, or Peach Yellows, are known at this location.

Trees can be furnished of the new popular "Wagener" Apple—also the "Douse" or "Hawley."

The Horticultural Advertiser, containing a priced Catalogue, furnished gratis to all post-paid applicants.

Feb. 1, 1850—1t. E. C. FROST.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per ann.—7 copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

☞ The back vols. can be furnished to new subscribers—and may be obtained of the following Agents:

NEW-YORK—M. H. NEWMAN & Co., 199 Broadway.
BOSTON—J. BRECK & Co., 52 North Market-st., and E. WIGHT, 7 Congress-st.
PHILADELPHIA—G. B. ZIEBER.

ADVERTISEMENTS—The charge for advertisements is $1, for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, MARCH, 1850. VOL. VII.—NO. 3.

Neglected Manures—Bones.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Feb. 7, 1850.

MESSRS. EDITORS—Having now called attention to some of the leading differences in the constitution of manures, and to the substances which are most valuable in them, I shall proceed to mention particular instances in the various classes named.

The extent to which fertilizers of every description are wasted in this country, is exceedingly great; if the value of all that is thus lost in one year could in any way be accurately ascertained, even over a comparatively small district, the aggregate amount would be found quite astonishing. Many farmers do not save much more than half of their farm-yard manure, permitting all of the urine and the drainings to be washed away by rains; of those who do endeavor to preserve their yard manure in the best possible state, there are many who neglect means of fertilizing their soils that are far more powerful. We often see those who buy guano, poudrette, &c., at high prices, and yet pass by quite as valuable manures that they might obtain for little or nothing.

I propose to specify and describe some of these neglected manures, and to explain some of the properties which establish their value.

One of the most common of all, and one that till lately has been almost entirely thrown away among us, is found in bones. Though this manure is now gradually coming into use, in most districts its excellence is still almost unknown, and incalculably the greater part of our bones are either thrown away, used for manufacturing purposes, or exported to enrich the soil of Great Britain.

In urging the importance of bones as a manure, I shall first give some details relative to their component parts. The bones of animals, birds, and fishes, when dry, do not differ greatly in their composition, although their appearance is so different. Bones of animals, in their fresh state, contain from five to thirty per cent. of water, mingled with a little fat; those of fishes contain from 70 to 80 per cent. of water. When dry, the proportion of earthy matter in each is about the same. This dry bone is not, however, by any means all earthy matter; about one-third of it is an organic substance called cartilage or gelatine. It is soluble in water, and may be for the greater part, extracted by boiling, forming common glue; this useful cement, the cartilage of bones, is an extremely nutritious and concentrated food. When obtained from clean bones, the solution evaporated, and seasoned so as to be palatable, little cakes may be made which will keep unchanged for a long time; small portions of these will retain the strength of the body in a degree corresponding to that derived from a full meal of ordinary food. When a strong heat is applied, this organic matter disappears, and the bone is left perfectly white, but not reduced in size. If a little muriatic acid be mingled with water, and a bone placed in it for a few days, the earthy matter will be dissolved out, the bone being again left of full size, but now perfectly flexible, so that it may be bent like a piece of rope. In this way, we can prove that the cartilage and the earthy part are each distributed through the whole bone. If it were all earthy matter, then it would be brittle and liable to snap by a sudden spring or blow; the cartilage, however, imparts so much elasticity that, unless in cases of great violence, bones ordinarily resist uninjured the shocks to which they are exposed.

This cartilage owes its remarkably nutritious properties to the large quantity of nitrogen which it contains. The 60 or 70 per cent. of earthy or mineral matter which remains after the separation of the cartilage, is composed chiefly of phosphoric acid, in combination with lime, forming what is called, as mentioned in my last letter, phosphate of lime. Beside this, there are small quantities of carbonate of lime, (lime and carbonic acid,) carbonate of magnesia, &c. Thus then, in 100 pounds of dry bones, there are about 35 pounds of cartilage, 50 to 55 of phosphate of lime, and 10 to 15 of carbonates of lime and magnesia.

When it is considered that the cartilage is rich in nitrogen, and the phosphate of lime in phosphoric acid, we see at once from what has been said as to the value of manures in a preceding letter, that bones must be remarkably fertilizing; in them we have the very requisites that were mentioned as the principal ones in all very powerful manures.

Some writers have attempted to show that the beneficial action of bones was due to the cartilage; others that it should be ascribed to the phosphates alone. I think that both are wrong, for the reason that each part contains substances in which most soils are deficient, and hence both are likely, in a majority of cases, to prove advantageous additions. One would suppose that as the cartilage is soluble, it would soon disappear, but this is not by any means the fact, for it seems to dissolve out very slowly under the earth's surface. Berzelius tells of a soil in Sweden which had long been celebrated for its capacity of bearing grain. There seemed to be no reason why it should be so superior to other soils, but a close examination with a glass, discovered fine fragments of bone, and it was then remembered that this had been, according to tradition, an ancient battle field; the bones of the fallen warriors still continued to enrich its soil. When a quantity of these fragments of bones were collected and boiled, a thin jelly was obtained by dissolving out small portions of cartilage which thus remained in part, even after the lapse of so long a time. Both portions then, probably, continue to furnish food for the plant, until the bone finally crumbles quite away. The *first effect* is doubtless owing in a great degree to the cartilage, as that is most soluble.

Having thus settled the question as to the value of bones, we proceed to consider the various modes of applying them to the soil, with reference to their effect upon crops. The old plan was to plow in the bones whole; applied in this way, their action was not so immediate as lasting: the whole bone decomposes very slowly in the soil, and may be taken up after lying buried many years, scarcely changed as to its external form; it will be found, however, if it has lain near the surface, that the color has altered, that it has become light, honey-combed and brittle. A chemical examination will show that it has been slowly dissolving, and yielding its various constituents to supply the wants of plants. The roots of any plant which can reach such a bone, will twine around it, insert themselves into its cavities, and show in every way, how eager they are for the food which it affords them. The decomposition of whole bones being so gradual, and it being difficult to distribute them equally so that all of the plants might feel their influence, it was necessary to apply large quantities; from 70 to 100 bushels accordingly, were not an uncommon dressing for an acre.

At this rate, all of the bones available to the farmer, would not go far toward manuring his land, and it became desirable to devise some more economical method of application. This was found in crushed or ground bones. They are now in Great Britain, used in various stages of fineness; inch, half inch and dust, are three of the more common descriptions. Bone dust is the most active and the most speedy in its effects, so that a smaller quantity than that of the other kinds will produce an equal benefit to the crop. Being so fine, it decomposes more readily, and is therefore not as lasting. There is, nevertheless, better economy in its use, for it lasts a long time, even in a minute state of division; 8 or 10 bushels doing more good than 70 or 80 bushels of whole bones. Being powdered, the dust can be sown evenly over the surface, either by hand or machine, or can be deposited in drills. A small quantity thus put on at short intervals, keeps the land constantly well supplied with as little waste as possible; it is also, by this system, always retained near the surface, and within the reach of roots.

If the dust or crushed bones be heaped up ten days or a fortnight before required for use, and covered with earth, a heating and fermentation takes place which prepares for a more speedy decomposition, and consequent fertilizing action in the soil. It is also found a very good practice to mix with fermenting yard manure when it is intended to apply bone dust broadcast and plow it in.

From the mention which has been made of nitrogen and of phosphates in the *grain* of our crops, it might be inferred that this manure is especially adapted to the increase of that part, and experience in England has amply proved this to be the fact.

There are now several mills where bones are ground in the neighborhood of Meriden and Middletown, Ct. I have been informed during the past season, that ten bushels of bone dust from these mills, per acre, brings up much of the worn-out land in that vicinity at once, enabling it to bear as much Indian corn as when it was first broken up from the virgin forest. I have no reason to doubt this report, as it only agrees with the results obtained in numberless cases abroad.

There is yet another and most important method of applying bones, a notice of which must be deferred till my next communication. JOHN P. NORTON.

Of Plows and Plowing.

EDITORS OF THE CULTIVATOR—In the course of travel last summer in Massachusetts, I met with Mr. NOURSE, of the firm of Ruggles, Nourse & Mason, plow-makers of world-wide celebrity. We had a conversation about some improvements in the construction of the Plow, which are important in order to arriving at some results in plowing, as yet unattained, in the most desirable manner. We had not time then to talk up the matter so fully as to settle upon the exact form of castings for our purpose, and agreed upon another meeting in the winter, at a time when both of us might be more at leisure. I accordingly called upon Mr. Nourse, a short time since, at his warehouse in Boston, and accompanied him from thence to the Plow Manufactory at Worcester, where, with the other gentlemen of the firm, our subject was fully discussed.

It was agreed, on all hands, that while the green-sward plow has been carried to so high perfection of form as to do its appropriate work with great precision, neatness, and ease of draught, a plow suitable for turning stubble or fallow-cropped land, has been very much overlooked. It has never yet occurred to me by what principles of construction the two implements can be combined in one; for sod and stubble plowing are two distinct operations, involving quite different mechanical principles.

The green-sward plow should enter the soil by a long and very gradually rising point, the wing or cutting share of which, should slowly widen, attaining its full breadth far in the rear; the mould board should lift the furrow-slice by an easy progression, quietly and smoothly laying it over in an inverted position; and the course of the plow through the ground should be so generally easy, natural and steady, as to require but little help from the plowman, and the least practicable draught upon the team.

The stubble plow should enter the ground more abruptly; and, by a generally shorter construction, and greater width of heel in proportion to length of mould-board, lift, and forcibly throw its loose furrow-slice over into the proper place, leaving a clear channel behind it. Ease of draught cannot be studied so closely here as in the green-sward plow, except at the expense of good work. The beam, and the standard of the castings, where the two connect, should be several inches higher than in any plow I have ever seen, in order to prevent clogging. I have followed the plow many a day in rank stubble, and in turning under partly fermented manure in moist land, with a crotched stick in my left hand, poking away with all my might, to keep the stubble or litter from gathering into a heap under the beam, and thus producing a baulk, or a shallow imperfect furrow. Last spring I determined to attempt an improvement in this particular. I got the standard of my stubble plow lengthened, and had a very high arching beam put in, which gave a space of *eighteen* inches between the sole of the castings and the bottom of the beam,—and that cured it of clogging. The mould-board of my plow, however, is not of proper form to turn stubble as it should be done.

If a stubble-plow of the right construction were put into sod-ground, it would lift the turf quite abruptly, and lay it over in a broken, uneven manner. So when a green-sward plow, of appproved form, is put into loose, cultivated ground, we find that it lifts the soil to its highest or perpendicular point, and then, for want of sufficient force in the mouldboard, or rather from being too narrow at the heel, about as much of the earth rolls the wrong way as the right; and the general character of the work is bad. These ideas seem to me to be correct; and if so, it is evident that the best kind of work can not be done both in stubble and green-sward, by one and the same plow.

For one, I feel the want of a sward plow that will turn a furrow a foot deep, and as narrow as is possibly compatible with that depth, and which shall not be liable to choke under the beam. When I commenced farming, my lands would not bear plowing over five or six inches deep. I have been gradually introducing the poor stratum below to the genial influences of the atmosphere and of compost manure, until I have made a soil of nine or ten inches, of uniform quality. But I have got about as low as I can go with decent execution, until a different plow from any I now know of, is made. My mowing-lands bear a pretty heavy aftermath; and when the plow is guaged to a depth exceeding nine or ten inches, the clear space left between the beam and the surface of the ground is so narrow, that I am constantly vexed with the wadding up of the long tangling grass upon the cutter of the plow, and thus prevented from maintaining the desired depth of furrow.

Messrs. Ruggles, Nourse & Mason are now getting up patterns for a stubble and a breaking-up plow, which I think will meet my ideas exactly. When spring opens, I shall test them by a trial in the ground; and if I find them to be the thing wanted, I shall then send drawings of them for *The Cultivator*, along with remarks more fully in detail upon their construction, and the desirable results they are calculated to produce.

While walking through the establishments of these gentlemen at Boston and Worcester, observing the extent of their manufactures, and the many indications of their ingenuity and enterprise in the same, I was forcibly impressed by a reflection upon the important influences their labors are imparting to our agriculture. They may truly be said to be benefactors of the farmers. Their Warehouse and Seed-store in Boston, contains an agricultural variety, almost as exciting to the visitor as the collections of a Museum. Every kind of field and garden seeds, of implements and machines, may here be found, of the best quality, and in quantities to suit the purchaser. Their Manufactory at Worcester, is a little world of itself; and he who would like to see that which is to be done well done,—who prefers farming-tools possessing beauty, strength and durability, to those of a clumsy, heavy, and make-do construction,—may here find his tastes gratified, even to the turning of a screw.

Surveying with delight, the great variety and utility of the implements of husbandry around me, I said to myself—'here is striking evidence of the value of the efforts of science and cultivated mind on behalf of Agriculture.' If we wish now to perform any kind of labor upon the farm, we find a tool ready for our use, by which we can do the work easier, better and cheaper, than we could ten years ago. The effect upon our farmers is great. It sets them upon thinking, and awakens pride and a determination to farm it better every way. I have often been pleased in noticing the effects commonly following the first introduction upon a farm, of an improved modern plow, for instance. The owner takes it to his meadow, and to his surprise and delight finds that, with two or three cattle, and but little labor on his part, the sod can be laid over smoothly, and with mathematical precision, where formerly he had to hitch on twice as much team to draw his old plow, and put himself into all sorts of shapes to keep it right side up in the ground, or perhaps to keep it in the field. As he surveys his now smooth and regular furrows, and contrasts them with his usual course of husbandry, he begins to think about mending his ways generally; and I have noticed that the introduction of the new plow has often proved the starting-post in a better general system of farming. The observing man does not look for enlightened and correct tillage where the tools in use are rude and ill-shaped, nor does he often find it careless and improvident where those of improved construction have been introduced.

Messrs. Ruggles, Nourse & Mason make their plows from patterns and by machinery of their own invention, upon which they have expended a great deal of time, thought and money, to bring them to their present state of perfection. Their Eagle Plows now embrace a great variety of sizes, forms and fixtures, fitted to all kinds of soil and modes of cultivation. The wood parts are made of the Worcester county white oak, of second growth. The forest oak is preferred to that growing in open land, because the grain is not so coarse, and the timber, when dry, is tougher. The beams and handles are sawed out by patterns nearly to shape, by the farmers around, and delivered at the factory in a partly seasoned state They are then stacked up in a lumber-room to season a year longer, and are occasionally overhauled to prevent the powder-post. The handles, when sufficiently seasoned, are first steamed, and then they can be bent to any desired shape. Various machines afterwards dress, tenon, bore and fit them for use. The beams are first put into a machine which planes them to uniform thickness on the sides, and takes them out of wind; another machine brings the tops and bottoms to any curve that may be wanted, a pattern being laid on for a guide which is adapted to the purpose; others tenon and mortice the ends for the reception of the handles, corner and check them, and bore the various holes for the clevis, standard bolt, &c. A thousand beams and handles, of any one sized plow, having gone through these various operations, will all be alike in shape, and any or all of them will fit their proper place without further trouble. When a quantity of plows of a given pattern are to be fitted up for market, the castings are placed upon a platform, to which is affixed the proper guages and guides to adjust the various parts of the plow to each other, so as to give the implement its proper land, pitch of beam, and pitch and height of handles; and the uniformity with which this may be done is so perfect, that any number of plows, of one size, will all be alike in these particulars.

A furnace is attached to the manufactory, where all the various castings are made. Some 5,000 lbs. of iron are daily worked up. The best quality of metal known in the markets is used. Numerous experiments have been tried in order to arrive at that admixture of the different kinds of iron which shall combine the greatest strength, toughness, hardness and durability of castings, No other metal has been found to be so strong and hard as the best American. Great pains is taken in the construction of flasks, in moulding and casting generally, in order to produce a close correspondence to patterns, and a perfect fit when the various parts of the plow are to be put together. The plow-points, and the entire length of sole on the land-side castings, are chill-hardened, as it is termed, so that the whole bottom-surface of the plow, exposed to wear, is thereby made more durable. The castings are taken from the furnace and placed in a vat, containing a solution of vitriol in water, which takes off the sand or scale from the iron. They are then put upon grind-stones revolving rapidly by water-power, brought to a polished surface, and afterwards coated with a blue varnish to prevent rust. Thus a new plow, when put to work, needs no scouring, and will keep bright in the most adhesive soil.

In addition to the manufacture of plows, these gentlemen make a great variety of other agricultural implements, and all by machinery adapted to the purpose. When any new tool or machine, or any new form of an old one, is to be made, they set immediately about inventing machines by which it can be manufactured with accuracy, and which shall do the work of many men.

I may conclude to give, in another communication, drawings and descriptions of some of the more important articles of manufacture that I noticed, and which struck me as being very useful and perfect. F. Holbrook. *Brattleboro', Vt., January* 20, 1850.

Studies for the Farmer.

Eds. Cultivator—Some weeks since, I received from my friend, F. Holbrook, Esq., of Brattleboro', Vt., in pamphlet form, a Report of the Vermont Legislature, on the formation of a "National Board of Agriculture," a copy of which was published in the December number of *The Cultivator*. Of the importance and merits of the Report, I need not here speak; it commends itself to the favorable consideration of every intelligent, thinking farmer in the country, who may be so fortunate as to obtain a copy of it.

As a text for a few remarks, I make use of the following short extract: "Too many of our intelligent, enterprising young men—observing the sad condition of the soil, and trained to false impressions—suppose that the agricultural profession, instead of being an open field for the efforts of science to improve, is but an arena fit only to be occupied by the illiterate and unenterprising, under the guidance of blind tradition. They accordingly press in masses into other callings, filling them to overflowing, and leaving the 'Art of Arts' to its fate."

The above extract, is a truthful picture of the past, but we have many good reasons for hoping a brighter day is dawning; intelligent and educated men of all the varied professions and pursuits of our country, are turning their attention to the importance of this "Art of Arts," and they are in various ways, lending their aid and influence to its improvement. Their precepts and examples are having a visible and salutary effect upon the great mass of practical farmers throughout nearly all sections of the older and long-settled parts of our country. And, added to this, the unwearied efforts of many of the master minds of the age, who from their laboratories, are scattering broadcast all over the civilised world, the great truth that agriculture is a *science*, as well as an *art*, and that by the application of correct scientific principles to the practical labors of the husbandman, his crops may be readily doubled, or tripled, upon the same area of soil, and that the profits of his labors will be increased in nearly the same ratio, while at the same time the manual and brute labor will be greatly lessened. These statements are not problems, yet to be solved, for facts innumerable, both in England and in this country, have fully settled the question. But the above are pecuniary considerations, and they are not trifling ones, neither, in a community where "dollars and cents" possess such a potency, such a charm. But there is another view connected with this subject, in which *dollars and cents* come not in competition. I mean the right culture of the mind of the farmer, for there have been, and are now, "false impressions" in reference to this. The late Mr. Colman, in some of his writings, has the following truthful remarks: "The time has been, when it was thought that any dunce could make a farmer," But he said it "required quite as much intellect and study to make a good farmer, as it did to make a good Lawyer, Doctor or Minister."

To know how to skilfully wield the axe, the scythe, and the other implements of the farm, must be the result of long practice in early years, and it forms an important part of the young farmer's education. To cultivate and improve the mind, (that attribute which so pre-eminently qualifies man to reason and investigate) forms another important part of the farmer's education, and this, also, requires practice, united to study, and habits of close observation, for in the bosom of man his Maker has implanted instinctive longings to know and comprehend the "how and the wherefore" of what he sees in the world around him, by which, and for which he lives. To gratify these "instinctive longings," it seems to me there is no other pursuit in which there is a wider range for useful study, and a broader scope for the application of a larger number of the sciences for practical purposes, than in that of the farmer.

The investigation of that beautiful and allwise arrangement of *matter*, that has so intimately and mysteriously linked together the dead earth, the living plant, and the moving animal, is a source of ever-living study and instruction. The study of the earth or soil, is of great practical use to the farmer, and necessarily brings him in contact with geology, one of the most interesting and instructive of the modern sciences. All soils were primarily the result of geological agencies; the fertility of one soil and the barrenness of another, depends very much upon its geological formation, and the relative proportions in which the mineral constituents of the soil exist in it. But as there is no treatise on geology wholly or particularly adapted to agriculture, it must be studied as a science. The study of which will amply compensate any one for all labor bestowed upon it, for it carries the student in point of history back long series of ages before the appearance of man upon earth, and unfolds to the mind some of those mighty convulsions and throes of nature, that have fractured and rent asunder the solid strata, and uplifted them at every angle of elevation, and thus brought to the "light of day," the fossil remains of myriads of once living and organised creatures of the older world, great or small, of every shape, form and color. The study of these "medals of creation" fills the mind with wonder and amazement, both in respect to the creative powers of the Deity, and the immense antiquity of this our globe. The host of extinct races of creatures and plants that once flourished upon this globe, "though dead yet speak," and they speak, too, of a length of time, so vast in the aggregate, so indefinite, that in contrast with them, the most ancient monuments of Greece or Rome, or the hieroglyphics of Egypt, are but as things of yesterday. Design is evidently stamped upon all the works of the Creator, and we have every reason to believe that all those multitudinous changes to which this globe has been subjected in by-gone ages, were but unbroken links in the great chain of events, as connected with the present ra-

[illegible]s of beings, and the state of things now existing upon this planet.

Every one is aware of the different capacities of soils for the production of luxuriant crops. Yet, but a small portion of the weight of a plant is drawn directly from the soil; only that portion that remains in the form of ash after the plant has been burned, was derived directly from that source. This is termed the inorganic portion, and seldom amounts to 10 pr ct., and in some species of plants it is less than 1 per cent. The 99 per cent. that is driven off by the process of burning, is called the organic part, and was derived from the gaseous constituents of the atmosphere and water.

The study of the atmosphere in reference to the purposes of animal and vegetable economy, is a source of the highest intellectual enjoyment, and it most beautifully illustrates the wisdom and beneficence of its great Author. "The atmosphere is a mixture of oxygen, nitrogen, carbonic acid, water-vapor, and ammonia; and every living thing on the dry land, animal and vegetable, is bathed in it, lives on it, and by it; and such is its adaptation to the wants of animals and plants, that neither class of *living* beings vitiate, or impair its suitableness for the other; but the very reverse of this, for each is the appointed means of preserving it in a salubrious state for the opposite class; the plant constantly adding to it food for the animal, the animal constantly supplying food for the plant."

The above seems a wise law of reciprocity. Although there is a vast difference in the specific gravity of the several gases composing the atmosphere, they are kept in a complete state of mixture by the law of "gaseous diffusion," a law overpowering the almost universal law of gravitation.

But an acquaintance with the qualities of the constituents of the atmosphere, implies some knowledge of chemistry, and for the most economical management of a farm, it seems necessary that the farmer should possess a competent knowledge of agricultural chemistry, for the whole process, from the first movement of the germ of the seed he commits to the earth, up to the full maturity of the crop it produces, is one continuous series of chemical changes and effects. Yes, farther than this; 'till his hay, grain, roots, &c., are converted into beef, pork, mutton, wool, &c. Said Mr. Quincy,—"It is in the power of every man to reserve some portion of his time for these pursuits; and he will find that every addition to his stock of knowledge will make his walks pleasanter, the flowers the sweeter, and every thing more full of interest and meaning." The farmer too, "should know something of the physiology of the vegetable world; and every blade of grass, and ear of corn will speak to him of the benevolence and skill of the Great Contriver." He should, too, possess some knowledge of mineralogy, and then every stone would partially disclose to him their great design, and every grain of sand bears unmistakeable marks of the fingers of a most exquisite artist.

There are many more important branches of science connected with the well being of the cultivator of the soil, but the length of this reminds me of drawing to a close; but I trust enough has been written to prove that the life of the farmer, is not *necessarily*, as some would have us believe, a life of incessant toil, and grovelling drudgery, wholly of the "earth, earthy," for "the farmer is that favored being who is permitted as it were, to stand in the laboratory of the Infinite One," and from his fortunate position, he has the opportunity, if he will improve it, of deriving the highest moral, mental, and religious enjoyment. LEVI BARTLETT.

Sheep—Varieties of the Merino.

We have several times been requested to give "the specific marks" which distinguish the Saxon from the Merino sheep.

The impracticability of laying down strict rules in reference to such distinction, will be in some degree obvious, when it is understood that what is called Saxon is but a variety of the Merino, as will appear from a brief notice of their history.

The Merino is undoubtedly a race of great antiquity, and from the earliest times has possessed qualities quite different from any other sheep. Under different circumstances, the characteristics of the race have been somewhat modified, and varieties under different names have sprung up; but in Europe, the term Merino is applied to all the branches of the original stock.

The Merino race has, in modern times, been chiefly disseminated from Spain; though that country, is not, probably, its original home. We are informed of the introduction to that kingdom of sheep of similar characters; and the name *Mareno* signifies from beyond the sea.* Pliny, and other ancient Roman writers, describe various breeds of Spanish sheep, distinguished by different colors, as black, red, and tawny. Those bearing a reddish fleece, found in Bætica, Grenada and Andalusia, were considered of the finest quality. They were probably taken to Spain from Italy, where they had been long known and highly esteemed under the name of the Tarentine breed. Their introduction into Italy has been attributed to the Greeks, by whom the breed had been obtained from Syria and the coast of the Black Sea.

History informs us that Columella, a colonist from Italy, and uncle to a writer on agriculture of that name, introduced more of the Tarentine breed into Spain, during the first century of the Christian era. It is certain, however, that Spain possessed sheep which were celebrated for the fineness of their wool previous to this period. But in reference to the extent of the improvements effected by Columella, it has been observed, that "as Spain was at that time highly civilized, and as agriculture was the favorite pursuit of the greater part of the colonists that spread over the vast territory which then owned the Roman power, it is highly probable that the experiments of Columella laid the foundation for a general improvement in the Spanish sheep—an improvement which was not lost, nor even materially impaired, during the darker ages that succeeded."†

It may be remarked, in passing, that there have always been coarse-wooled as well as fine-wooled sheep in Spain—the former being principally called *Chunahs*. The Spanish government, at an early day became so convinced of the great value of the Merinos, that a special edict was passed, prohibiting their exportation without royal license. This prevented a general spread of the race till after the overthrow of the Spanish dynasty by the French, under Napoleon.

For several years, the most valuable Merinos in Spain were in possession of the Crown and its dependants. The principal flocks were the Escurial, Guadeloupe, Paular, Infantado, Negretti, Montarco, and Aguerre. These varied in quality, according to the skill and care which had been bestowed in breeding and management. The Escurial were deemed superior to all the others in fineness of wool.‡

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* Hon. Wm. Jarvis. † Youatt.

‡ For particular descriptions of these varieties, see letter of Hon. W. Jarvis, *Cultivator* for 1844, p. 127; Youatt's Treatise on Sheep, p. 156; and Livingston's *Essay on Sheep*, pp. 47, 48.

Origin of the Saxon Merinos.—The first introduction of Merino sheep into Saxony, was made in 1765. They were obtained by a grant from the King of Spain to the Elector of Saxony. "One hundred and nineteen ewes and one hundred and ten rams were selected principally from the Escurial flocks, then the King's private property, under the care and management of the monks belonging to the monastery of that name, and which were considered the finest sheep in the kingdom."[*] Spanish shepherds went with the sheep, and remained till the Saxon shepherds could be instructed in the details of management.

These sheep were bred with great care, under the direction of commissioners appointed by the Elector to superintend the management of his flock, and after the expiration of twelve years, or in 1777, another importation was made from Spain, consisting of one hundred and ten rams and ewes. According to Mr. Grove, these were selected from the best flocks of Leon, Escurial, Negretti, Montarco, &c., and were of very superior quality.

From these stocks, the pure Merino breed rapidly increased in Saxony, and was finally extended into the neighboring German states. Its progress was at first strongly opposed by the prejudices of the people; but by the perseverance of the Elector and other influential individuals it became perfectly naturalised, and after the lapse of several years, the fleece of the Saxon was brought to a degree of fineness excelling the best Spanish.

It is thus seen that the Saxon is identical in blood with the Spanish Merino—that the former were, in fact, derived from a selection of the finer specimens of the latter, and that the superior fineness of the wool of the Saxons is attributable to the system pursued in their breeding and management. And here the question arises—Could not such an improvement be made in this country as well as in Saxony? We answer, yes: there is no reason why the application of the same skill and care to the same materials, should not produce the same results in America as in Germany. There is nothing in our climate or soil which naturally tends to the deterioration of the fleece; and in the hands of some of our wool-growers, the finest stocks that have been introduced from Spain and Saxony, have maintained their standard for many generations. We have had the Escurial and other Spanish stocks, from which the finest Saxon sheep were derived; and where fineness of staple has been the object, their American descendants have possessed the quality, in a degree always proportionate to the skill to which they have been subjected.

It does not, therefore, necessarily follow, that because sheep produce wool that is finer than ordinary Merino, they are Saxons, or that any of their ancestors came from Saxony. We might refer, by way of illustration, to examples in our own country, such as the flock of the late W. R. Dickinson, of Steubenville, Ohio, and other flocks in Ohio, Virginia and Pennsylvania, which were derived from this.[†] The great fact to be kept in view is, that the properties of animals, (including wool,) are modified by the influences which are brought to bear on them—as food, climate, shelter, and especially the rules observed in the selection of stock for breeding. Thus the Merino sheep, in the course of several generations, may be made to produce either finer or coarser, longer or shorter wool, than the original stock. It is not uncommon to find among the descendants of imported Saxons of the finest kind, sheep whose wool is coarser than much which passes under the name of Merino. There is evidently a tendency in the variety to return to its primitive condition—a tendency which the breeder, if he possesses the requisite knowledge and judgment, may overcome.

The inquiry has been made, whether the shape or turn of the horns, affords any mark of distinction between the Saxon and Spanish sheep. We are not aware of any such distinction. The first Saxon sheep brought to this country, had generally wide spreading horns; many of those lately imported, have their horns curved close to their heads. It is well known that the turn of the horns in sheep and cattle, vary with the caprice or fancy of the breeder.

The French or Rambouillet Merinos.—The breeds of sheep originally belonging to France, varied in character with the face of the country, and the nature of the pasture; but until the introduction of the Merinos, they generally produced coarse wool. It might naturally have been expected that as the country was only separated from Spain by the Pyrenees mountains, the valuable Merinos would have supplanted the breeds above mentioned, at an early day; but such was not the case. In the beginning of the last century, however, the French statesman, Colbert, at his own expense, conveyed several Merinos across the mountains. Thirty years afterwards, a few more Merinos were introduced; but the prejudices of the people effectually prevented the spread of the breed; and nothing important was accomplished towards their establishment in the kingdom till 1786, when the French government took up the matter, and obtained in Spain 376 Merinos. They were selected, according to M. Gilbert, (as quoted by Livingston in his *Essay on Sheep*,) from a great number of Spanish flocks in different parts of the kingdom. Sixty of them died on the passage. The remainder were sent to Rambouillet, about forty miles from Paris, where the government had an agricultural establishment devoted to the improvement of domestic animals. Many of the sheep and lambs were destroyed by various diseases in the course of the first year.

Notwithstanding these disasters, the Rambouillet flock gradually increased. To facilitate the spread of the breed, a publication on the treatment of sheep, was drawn up by M. Gilbert, under the patronage of the government; a practical school for the instruction of shepherds was instituted, and two other depots for Merinos were established. But with all these efforts, the introduction of the Merinos was comparatively slow; for when, (as stated by Youatt,) a census of the sheep in the kingdom was taken, twenty-five years after the establishment of the Rambouillet flock, there were thirty millions of the native breeds, and only two hundred thousand pure Merinos. What has been their comparative increase since that period, we have no means of ascertaining; but as the French people enjoyed a long period of quiet and prosperity, and greatly increased their manufactures of every description, after the peace of 1815, it is reasonable to suppose that the Merinos are now extensively reared in the kingdom.

The principal alterations which the Merinos appear to have undergone in France, are increase in size, and in weight of fleece. What has been the average increase in these respects, we have no data to show. Some which have been imported to the United States, have weighed 200 lbs. each, and have produced fleeces, of one year's growth, weighing, in the dirt, from twelve to fourteen pounds. An English writer, describing the Rambouillet sheep, observes: "The Spaniards entertained an opinion that a looseness of skin under the throat and other parts, contributed to the increase of fleece. This system the French have so much enlarged on, that they have produced in this flock individuals with dewlaps almost down to the knees, and folds of skin on the neck, like frills, nearly covering the head."

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[*] H. D. Grove.

[†] For an account of the origin of Mr. Dickinson's flock, see *Cultivator* for 1848, pp. 10, 11. See also accounts of the origin of the flocks of John H. Ewing, Washington, Pa., Talbot Hammond, Brooke county, Va., and Jesse Edington, near Wellsburg, Va., in the *American Shepherd*, pp. 414, 419, 429.

It has been mentioned above that the French Merinos were originally selected from many flocks in different parts of Spain; and hence, according to Gilbert, "they were distinguished by very striking local differences, which formed a medley disagreeable to the eye, but immaterial as it affected their quality." It is probable that the differences which at first existed in the flock, have operated to prevent an assimilation to a uniform standard in shape and size of carcass and quality of wool.

Relative Profits of different Varieties of Sheep.—It is to be regretted that with all the controversy and strife between the advocates of different varieties, little or no light is brought out in reference to the main points which affect their relative profits. It is true that different varieties are adapted to different circumstances; and between two localities, for instance, differing widely in soil, herbage and climate, it may not be difficult to say which of two breeds is best adapted to each. Nevertheless, there are situations in which the varieties kept in this country chiefly for the production of wool—Spanish, Saxon, French Merino, &c.—may be deemed to meet on an equality. Such situations are farms which are well provided with shelter, and where summer and winter feed is abundant and wholesome.

Now as regards the *production of wool*, what variety would yield the greatest profit under these circumstances? In answering this question, it is not sufficient to refer to the weight of the fleece, to the price it would bring in market, or to the aggregate amount in money which each sheep annually affords. Neither of these can settle the point. Nor can it be fully determined by a comparison of the net proceeds afforded by the wool of different kinds, in proportion to the weight of carcass—though it is admitted that this would be an approximation towards the desired result. But who has even made a fair and reliable trial of this kind? The true test, however, is comprehended in the question—What variety will yield the greatest income in proportion to the land occupied, and the labor expended in management? It is in reference to the point here involved, that we want light. Who has ever taken two different parcels of land, of equal quantity and quality, appropriated one part to one variety of sheep, and the other part to another—carefully charging each with their respective expenses, and crediting the income?

It seems to us important that measures should be taken to bring out information on this subject which can be depended on; and we would suggest that it is a proper question to be decided by agricultural societies. In their hands, the experiments might be carried on free from the bias which belongs more or less to individual rivalry. Let a committee of judicious and disinterested men be appointed, under whose superintendance and direction the trials shall be conducted; and, that the point aimed at may be fully ascertained, let the trials be continued through a series of five years—the results from year to year being made public under the sanction of the committee.

The Question Settled.

Eds. Cultivator—I am rejoiced to see in the October number of *The Cultivator*, that the long contested question in relation to the transmutation of wheat into chess, in the discussion of which so much feeling has been displayed, and such vast quantities of ink shed, has been finally settled, at least to the entire satisfaction of "A Gleaner of Agricultural Knowledge."

He says the question is settled, and most conclusively so in his mind, by evidence which cannot be contested, set aside, or explained away. Surely, the nineteenth century is destined to bear the palm from all the centuries that have preceded it, in grand and useful discoveries. The application of steam to navigation, the magnetic telegraph, and the transmutation of wheat into chess!—all discoveries of the nineteenth century, which is not half gone yet!

"A Gleaner of Agricultural Knowledge," should get the better of his modesty so far as to permit the world to know to whom they are indebted for such a valuable discovery, and for the settlement of so vexed a question;—one upon which the brains of so many have been suffered to go wool-gathering in days gone by.

The remarks of "A Gleaner" were of such a positive, sledge-hammer-like character, and came down so like "a thousand of brick," that I was forced to give in my adhesion to them; and so, before I had got through with his communication, I had come to the conclusion that the question was certainly settled, firm as the rock of Gibraltar; and had made up my mind henceforth to be a transmutationist—one of the straightest of the sect. But, lo! no sooner was the question settled, than it was immediately again unsettled by your criticism, appended to the communication of "A Gleaner." It was only for a moment, however, that I felt any misgivings in the new faith which I had so recently adopted, as the conclusion of your remarks again re-assured me of its truth.

Now in introducing the supposed case of the conversion of men into monkeys, I suppose you thought you was giving transmutation a tremendous thrust, whereas it has had the effect of more thoroughly confirming me in the faith, from the fact of its bringing to my mind an analogus (?) process, now going on in our midst, the degeneracy of our African population, and the process of transmutation of which they are the subjects, and through the effects of which they are rapidly being converted into whites!

Now if negroes can degenerate, as it is proved by ocular demonstration they do, and turn to white folks, why may not men be as easily 'converted' into monkeys, or wheat into chess?

Our lots have truly fallen upon evil times. Not only do our blacks turn white, and our wheat to chess, but even our timothy turns to chess, and our red clover to white. A few weeks since, I heard a farmer in this county assert, most positively, that timothy would turn to chess; and as evidence of the fact, cited a case within his own knowledge, by which he proved his position as conclusively as "A Gleaner" in *The Cultivator*, does his.

I have frequently heard the idea advanced that red clover, after a few years, would degenerate and turn to white clover. As to the way in which white clover was introduced in this country, there are a variety of opinions. Some contending that it is red clover degenerated, others that it is a spontaneous production; and I heard one man declare that it was brough in by a Yankee pedlar, and sold for red clover seed—his father having purchased some of the seed which proved to be white. It doubtless proved a profitable speculation to the vender, such an one as Yankees are apt to engage in, as white clover seed is only worth from four to eight times as much as red!

With these few prefatory remarks by way of introduction, as the writers say, I shall now proceed to relate my experience in the transmutation of wheat into chess.

In the fall of 1846, my father, with whom I was then living, sowed about ten acres in wheat. The ground had not been in wheat for some eight years before. The seed was so clear of chess that it was extremely difficult to find a grain. When harvest time came round, and the wheat was harvested and got out, the yield was only about six bushels to the acre, owing to its having been so badly frozen out in the winter. There were spots of a yard square or more perfectly bare of wheat. But where there was any thing, it was either wheat, or weeds of some kind, or timothy, which had been sown on the ground in the winter. There was scarcely a bunch of chess to be found in the whole field.

While the farmers generally were lamenting that their wheat had frozen out and turned to chess, or cheat, as it is called here, ours had frozen out as bad as any, but it had not turned to cheat. This was a poser to the transmutationists, whose attention was directed to the subject.

Divers were the reasons advanced and suppositions ventured in accounting for so unheard-of a phenomena as that of wheat freezing out and not turning to chess! Failing to convince the anties of the soundness of their doctrine, they would usually wind up by citing some half dozen cases, where clean seed had been sown upon clean ground, and a pretty fair crop of chess gathered in place of wheat.

In the fall of 1847, we sowed about twelve acres out of the wheat grown that year, a part on new ground, and the balance on old ground, that had not been in wheat for eight or ten years. We raised a good crop of wheat and no chess, or not more than could be chargeable to the few seeds that had been sown. In the fall of 1848, we sowed, between us, about 45 acres, out of the wheat grown that year, still as clear of chess as when we began with it in '46. Mine, some 15 acres, was very badly frozen out, so much so that had it escaped the rust, it would not have yielded more than five or six bushels to the acre; as it was, it was not worth cutting. A portion of my father's was also badly frozen out. Yet, notwithstanding the havoc made by the frost, the transmutationist's principal agent in the conversion of wheat into chess, I have no idea that in the whole 45 acres there could have been gathered a quart of clean chess.

Now these are facts, and facts, like certain long-eared animals, are said to be "stubborn things."

As to the question whether or not wheat may, can, will, or does turn to chess, I shall not pretend to decide, either *pro* or *con;* but would merely remark that in the course of my observation, I have found that those who are firm believers in the doctrine of transmutation, and consider it unnecessary to be very particular about cleaning their seed wheat, have their faith confirmed very often by their wheat turning to chess; while those who take the common sense view of the matter, that chess, like every other vegetable production, comes from the seed and no where else, and act accordingly, sowing clean seed on clean ground, seldom, if ever, have to lament over their wheat turning to chess.[*]

Farmers generally have very vague and confused notions of the nature of chess. In the first place it is one of the most *accomodating* plants that grow. You may sow a gallon of the seed, in conjunction with a bushel and a-half of wheat, and if the wheat comes up and meets with no casualty, it will cover the ground, and you will scarcely see a head of the chess at harvest, over 6 inches in height. It is frequently seen in such cases not more than two or three inches high, with one or two fully developed grains on the top. But let the wheat be destroyed by freezing out, or grazing, and the chess, ready to fill its place, branches out, grows luxuriantly, and produces a glorious crop. Secondly, it is one of the hardiest plants in the world. The seed is in a manner indigestible, and is generally as capable of germination after passing through the stomach of animals, as before; and it may lie in the ground for years, under unfavorable circumstances, and when brought to the surface it will germinate and grow. Freezing seems to have no effect upon the plant, and grazing but very little. Thirdly and lastly, it is one of the most prolific of plants. My curiosity prompted me one day last summer, to count the seed on a common sized bunch of chess. Their number was 2,607. Supposing each grain capable of producing this number, and I have no doubt that it can, with any thing like a fair chance, such as having the wheat frozen out or destroyed in any way, and the increase of a single grain in three years, will amount to the enormous quantity of 17,718,342,543 grains. Jas. R. Hammond. *Shandy Hall, Cooper Co., Mo., Nov.* 22, 1849.

Rural Economy.

Profits of Dairying.

Eds. Cultivator—As thy columns are filled up with modes and results of farming, I take the liberty to send a statement for publication, of the manner I have conducted my dairy, and the proceeds of the same for the year 1849.

My dairy consists of 30 cows, most of which are of common breed, though few are part Devonshire. They were fed as follows: on hay and upland pasture, with all the whey, except enough to rear three calves, and partially fatten four hogs. In addition, I fed during the season, sixty bushels of corn and oat meal, three-quarters of an acre of green corn, which, owing to the drouth, was not likely to come to maturity, and twelve loads of pumpkins, boiled and fed with whey, as was the meal.

The following is my mode of making cheese: We strain the milk at night into a tin pan, which is surrounded by a wooden one, with a space of one and a-half inch which is filled with water. After the morning's milk is put in, the whole is warmed to 80° by steam, operating upon the water. After the rennet is well stirred in, let it stand forty minutes, then cut it coarsely; let it stand fifteen minutes, then cut it finer, and raise the heat to 90°. Work it occasionally with the hand for thirty minutes; then draw off one-third of the whey, and work the curd fine and scald to 100°, if for home market—and if for foreign, 110°. Draw off the whey, and let the curd cool; put one pound of Ashton salt to forty pounds of the curd, and press very hard.

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[*] These remarks should be remembered, as they show that faith, is in this case, a matter of practical importance. We have often met with farmers who held the idea that chess, of itself, did not grow—it only came from wheat! Consequently, it was of "no use to be particular" about sowing the seed. We know many persons, however who do not believe in transmutation, and these farmers, (and this is a fact well worthy the consideration of the believers in transmutation,) grow no chess on their farms, and never have occasion to complain of the change of their wheat to chess.—Eds.

I commenced operations 1st of 4mo., and up to 12mo. 29th day, I find the result as follows:

18,205 lbs. cheese, sold in New-York for 7 cts. per lb., ...	$1274 35
550 lbs of Butter, ...	80 75
	$1355 10
Commission, boxes, and transportation, ...	$127 43
Nett proceeds, ...	$1227 67

Which gives to each cow 606 5-6ths lbs. of cheese and 18⅓ lbs. of butter, worth $40.92, exclusive of calf, &c.

The age of the cheese when sent to market, has averaged from 30 to 60 days. OTIS DILLINGHAM. *Granville, Wash. Co., N. Y., 1st Mo.*, 25, 1850.

Large vs. Small Cheeses.

The *Ashtabula Telegraph*, speaking of the great decline in the price of cheese in the northern part of Ohio, the last season, attributes it to the large size of the cheeses.

"It is stated by one of our most intelligent and cautious merchants, that his experience of New-York prices of cheese, acquired during his fall visit to make purchases, settled in his mind, conclusively, the form and weight of cheese intended for export or for city use. He found on inquiry at the highest sources, that while five and a-half cents was the top price for our large sized cheese, the small sizes, say from ten to twenty pounds, were quick of sale at nine and nine and a-half cents. This, he declared, was a fact worth knowing by a country merchant in the habit of buying cheese, and it is a fact worth knowing by those who make cheese. Large cheeses, however skillfully and carefully made and kept, are bad travellers. The principle of decomposition is inherent in every cheese, and nothing but dryness can arrest it; but in large dairies this degree of dryness is difficult of attainment,—is seldom attained. What is called *heaving* in cheese is simply fermentation, and this is the first step to decomposition, which is inevitable, after the *heaving* has once occurred. The great losses heretofore sustained by foreign merchants—purchasers of large cheese, have made them shy of the article, and their loss of character has led to their fall in value."

Dunlop Cheese.

The following method of making this celebrated cheese, is given by Mr. ROBERT GRAY, a practical Scotch Farmer, now residing in New Brunswick. It is taken from the report of the Directors of the St. John Agricultural Society:

When more than the produce of one milking is used, the old milk must be heated to the same temperature as that newly drawn from the cows, or a little above it. This is best done by putting the milk, after taking off the cream, into a tin pan, and that again into boiling water. When the milk is properly heated, it is (together with the cream previously drawn off,) and the new milk, put into a tub and well stirred together, and the steep applied. When the milk has coagulated, which will be in about 20 minutes, the whole should be stirred up and thoroughly broken by the hand. In ten minutes afterwards the whey should be taken off, and the curd pressed against the bottom of the tub, till it is firm enough to be lifted into a drainer, or vessel with a porous bottom, when it is cut with a knife once in every ten minutes for an hour. It is then put into a cloth, and a pressure applied to expel the whey more thoroughly. When this is done and the curd gets dry and firm, it is put into a tub and carefully minced with the curd knife, and salt and a little nitre applied. The curd, with a cloth round it, is then put into a chesset, set before the fire for three hours, and turned from time to time to preserve a uniform heat. It is then put in the press and a light pressure applied. At the end of an hour the cheese is turned upside down in the chesset, and a cloth drawn from boiling water applied. At the end of another hour, the cloth is again changed, and the cheese is left in the press till the following morning, when it is taken out, slightly heated before the fire, and again returned to the chesset and the press. When the wet cloths have been changed a time or two, a dry cloth is substituted and a greater pressure applied. The dry cloths are changed every two hours till the cheese is perfectly dry, when it is taken out, the chesset well warmed, and a thin cloth put into it. The cheese is then returned to the chesset for the last time, and subjected to a slight pressure for half an hour, when it is taken out and laid on a plank in a dry situation with a cloth thrown over it for a day or two, and turned over and rubbed with a coarse towel, (taking care not to break the edges,) every two days till it is sufficiently dry for keeping.

To Make and Preserve Sausages.

EDS. CULTIVATOR—I send a receipt for preserving sausages, that is worth one year's subscription to *The Cultivator*, to every family that makes much use of them that does not already know it. Although too late for the last killing time, it will soon come around to another. And while I am about it, I will give my mode of seasoning them, as I have done it for twenty years. For one hundred pounds of meat, 1½ pound of fine salt, 6 ounces of black pepper, powdered, and 3½ ounces of sage. For market or immediate use, a little more salt might be added.

And now for preserving them. Immediately after the meat is seasoned, make it up into small cakes, (say as large as the top of a tea cup,) and fry them in the usual manner until nearly done—or quite done I think best. Then have clean small earthen or stone pots ready, and pack the cakes in as closely as possible till nearly full, pouring in the fat that comes out in frying them—then put a weight on, sufficient to keep them down until cold. If there is not enough fat fries out to cover them, supply the deficit with clean melted lard. When they are perfectly cold, it is best to put a little more melted lard on, as there will sometimes be cracks made in cooling—put a paper over them, and set them in a dry cool place, and they will keep from New Years till after the next harvest as good as when put up, or very nearly so. They will keep, I suppose, as well in large pots as small ones, until they are opened. It is only necessary to warm them up for use. Try it—there is no mistake in it. I have proved it. E. CROASDALE. *Phil. Co., Pa., 1st Mo.* 29, 1850.

FEEDING CATTLE IN WINTER.—The *American Farmer* says, "a neighbor of ours had an oblong tight box made, with a top—he filled this box with cut stalks, poured over them a pot of boiling water, shut down the lid and put a weight upon it, and thus cooked them with the steam. By the time the water became milk-warm, the stalks were sufficiently cooked. For his milch cows, he had bran or mill feed mixed; and they were always in a thriving condition."

Management of Bees.

EDS. CULTIVATOR—I have perused your valuable journal, *The Cultivator*, for several years past, and find it contains more important information for the young and inexperienced, as well as the aged and practical farmer, than any other periodical of the kind published in the State, and I might add in the United States. I take a number of journals devoted to the "improvement of the soil and the mind," yet there is none, in my estimation, which affords as much useful knowledge to all classes of community as *The Cultivator*.

I will state that I am now in possession of six elegantly bound volumes, which have cost me the price of two young swarms of bees. The information I have gained on this subject alone—the management of bees—has more than doubly paid me for the volumes I now hold. And as there has been less said on this subject than most others, I feel inclined to ask the inexperienced bee-keeper a few important questions: First, did you examine your hives of bees and honey after harvest, and satisfy yourself that each swarm had sufficient honey in store to keep them through the winter without being fed? Each swarm will consume some twenty pounds from the middle of October to the middle of April. If there is even a larger quantity left in the hive, the bees will thrive better the coming summer, and prove more profitable to the keeper. Secondly, is your Bee-House so constructed as to keep the blustering snow storms and cold rains from beating against the hives? If not, it should be so constructed. Bees can stand a great deal of cold during the winter, but they must be kept dry. Hives should be well ventilated. Have you examined your bottom-board, or holes intended for ventilation, to see if they are not closed with dead bees and other filth? If they are, the dead bees should be removed. If not attended to, the chances are, the whole colony will be dead before spring. It is well to examine your hives as often as once a month, during the winter.

I have seen and used many well constructed patented hives, yet I know of none that requires no attention. Bees require but little attention to keep them in a healthy condition, yet that little attention must not be neglected, if you would make them profitable. C. G. J. *Buffalo, N. Y., Jan.*, 1850.

Cows for the Dairy.

MR. ROBERT GRAY, near Fredericton, N. B., in answer to an inquiry from the Directors of the St. John Agricultural Society, says—"From my experience in the matter, I give a decided preference to Ayrshire cows for the dairy. I believe they will yield a greater quantity of milk, in proportion to the food they consume, than any other breed. Besides this, they are docile and hardy, and will thrive on pasture, and with a description of keep where such breeds as the Short-Horns would starve. They also possess more than average feeding qualities of their own, and when crossed with the Short-Horn or Durham bull, the produce is an animal remarkable for early maturity and a disposition to fatten. If proof were wanting of the excellence of the breed, it would be found in the circumstance that they are carried to almost every quarter of the globe. Large droves are every year taken to England, and during the last ten years, considerable numbers have been taken to the Cape, the Isle of France, to Sweden, Denmark, Belgium, and the United States."

Miscellaneous Items.

MAKING MAPLE SUGAR.—It is surprising how very general the practice is of boiling the sap in large cast-iron kettles. Sheet iron is much cheaper, needs far less fuel, does not crust nor burn round the top, and is decidedly favorable to very clean sugar. A simple mode of making sheet iron pans is described in the *Ohio Cultivator*—the pans being 4 or 5 feet by 2½, 9 inches deep, the bottom and ends one strip of good sheet iron, and the sides 1½ inch plank. The edges of the iron are punched with holes an inch apart in a zig-zag line, a strip of slippery-elm bark placed between the iron and plank when nailed on, and the whole then placed on a brick "arch" which entirely keeps the fire from the plank sides.

HENS IN WINTER.—S. W. Cole says that hens will never lay well in winter, unless they are made to "scratch for a living." This is done by burying their grain several inches in gravel. He states that eight hens, which did not lay an egg in a month in the winter, by adopting this course, lay 3 times as many eggs the following winter, as their whole feed cost.

FEEDING CATTLE.—Cattle standing in cold muddy yards, exposed to the weather, consume about twice as much as those in sheltered stables kept clean and littered, and free from the accumulations of manure.

The Veterinary Department.

Vermin on Cattle.

EDS. CULTIVATOR—It has long been known that a tincture of the seeds of the common blue Larkspur (*Delphinium consolidum*) will destroy lice on the heads of children, immediately and effectually. Having tried on cattle, with partial success, everything recommended in books, (except preparations of mercury,) I used larkspur seed in diluted alcohol, and the insects appear to be entirely destroyed. The labor of applying it is much less than most other remedies, and it appears to have no injurious effect on the cattle to which it is applied. T. S. GOLD. *West Cornwall, Ct., Jan.* 22, 1850.

Ringbone.

EDS. CULTIVATOR—In the December number of *The Cultivator*, in answer to an inquiry, you remark, "We know nothing of ringbone being fed by a bladder, situated in the heel or posterior part of the foot." If you will turn to *Cole's Veterinarian*, you will find it there described, and the extraction of the bladder, recommended as a remedy. From twenty years observation, I am satisfied that three out of four may be thus cured, and why not the other fourth, is beyond my ken, unless it is because the operation is so slightly performed as to leave a connection between the bladder and the ringbone. But be that as it may, some of the worst cases I have ever known, have been permanently cured. For instance, a colt lame in three feet, all cured at once. A horse that had got into his *teens*, and had been for some months entirely useless, even holding up the lame foot when he moved, was well in two weeks after the operation, &c. The operation is very simple, and can be performed by any one, if the horse is properly secured, and will at most, do no harm. W. *Waterbury, Ct., Jan.* 25, 1850.

We should like to have the opinions of experienced veterinarians in reference to this subject.—EDS.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Pruning the Peach.

Although we have nothing new to offer at the present time on this subject, yet as the time is approaching for attention to the necessary work, we would remind our readers briefly of some of the principal points and advantages.

The peach, of all our fruit trees, is remarkable for its sensitiveness to shade. The leaves and branches positively refuse to grow, unless they can feel the sun-light. Hence, as the tree advances in size, the shoots in the central parts of the head, dwindle, die, and drop off, leaving the more central portions of large heads, with long naked limbs, bearing tufts of leaves only on their extremities, as shown in the annexed figure, (fig. 1.) It is not necessary for us to point out the evils of this result, so obvious to every cultivator.

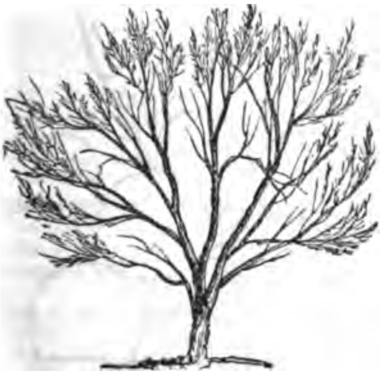


Fig. 1.

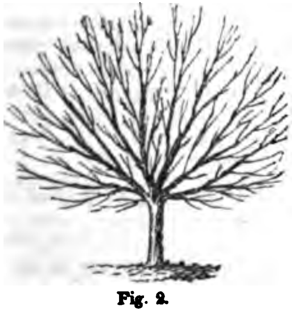


Fig. 2.

The remedy consists in keeping the leaf-bearing branches thinned out towards their extremities, so as to let the light into the centre of the head, as in fig. 2. This may be partly effected in trees which have been neglected, by cutting out shoots of some years' growth when necessary. But the best way is to cut off, near the close of winter, from one-half to two-thirds of every last year's shoot, all over the tree, commencing this treatment as soon as the tree begins to bear, and repeating it annually as long as the continuance of the tree. This greatly reduces the weight of foliage, and thins the fruit. The crop borne on trees treated thus, is not so great as to numbers, but this deficiency is fully made up in measure, and the quality is incomparably improved. Such varieties as the Heath Cling, which are usually almost worthless, from being crowded on the tree, are the most easily thinned of their crop in this way—far more so than by the more frequent practice of picking off the young peaches.

This shortening of the shoots is so perfectly simple, that the most awkward workman can hardly go wrong, if he only attends to one point, that is to cut off two-thirds of the long shoots and half the short ones. He may do this with a knife, and aided by means of a good standing or self-sustaining ladder. This mode of pruning the peach, although long ago practiced in some parts of Europe, has been but lately introduced to much extent here, where it has uniformly been attended with the best success.

North American Pomological Convention.

The proceedings of this Convention have been published, under the supervision of F. R. ELLIOTT, in a neat pamphlet of 64 pages. It is occupied with a record of the discussions in the Convention; and an extensive and minute report of the state of Fruit Culture in Illinois, by Dr. Kennicott,—and in New-York, by Dr. Wendell; with shorter reports from Wisconsin, by F. K. Phoenix; from Ohio, by F. R. Elliott, and from Vermont, by C. Goodrich. Altogether, it contains a great amount of valuable information on the adaptedness of fruits to the widely differing regions of the whole northern portion of the Union.

The following are the results of the action of the convention, on fruits not brought before the convention the previous year:—

PLUMS.

Smith's Orleans—first-rate.

Duane's Purple—second-rate, ranking high for size and beauty.

Lawrence Favorite—first-rate—not tested at the west.

Long Scarlet—second or third-rate—handsome and fine for cooking.

Lucombe's Nonsuch—nearly first-rate—poor bearer.

PEARS.

Fondante d'Automne, (Belle Lucrative)—first rate.

Dutchess of Angouleme—second-rate. Largely discussed, and taking its great size, free growth and productiveness into consideration, it was regarded by most of the members as well worthy of cultivation—many regarded it as equal in flavor to the Bartlett—but in all cases, it was pronounced worthless, unless upon quince stock.

Gansel's Bergamot—first-rate—somewhat variable—a moderate or poor bearer. Growth of the tree short and stumpy—leaves mealy.

Napoleon—good second-rate—fine grower, and abundant bearer.

St. Ghislain—in most localities, first-rate.

Buffum—a fine grower, but pronounced second-rate by most of the members, and first-rate by a few.

Long Green—second-rate—very thrifty, a good bearer, regarded by some as nearly first-rate.

Julienne—rarely nearly first-rate, often second-rate, and frequently worthless. Never fine unless gathered before fully ripe.

Frederick of Wurtemberg—very variable. When at perfection, very large, exceedingly beautiful, with a brilliant cheek, not exceeded by any wax imitation—needs thinning on the tree, and requires high cultivation—very large specimens had been produced by manuring the trees with bone-dust.

Fulton—nearly first-rate, by some as second-rate—hardy, productive, and adapted to nearly all localities.

Passe Colmar—by some, as second-rate—by others as "king of pears"—requires rich and careful cultivation to attain perfection, and skilful ripening.

Beurre Diel—nearly always first-rate—best on quince stocks.

Beurre d'Amalis—second-rate.

Dix—first-rate—long in coming into bearing—has sold in Boston for $2 per dozen, or $30 per bushel—has rarely fruited in N. Y. or at the West.

Easter Beurre—variously ranked as first and second rate—requires ripening in a warm room, after being kept cool through the winter—if brought too early into the warm room, it shrivels.

Bleecker's Meadow—from second to fifth-rate.

Beurre Bosc—first-rate.

APPLES.

Roxbury Russet—first-rate.

Hawthornden—second-rate; first-rate for cooking—productive.

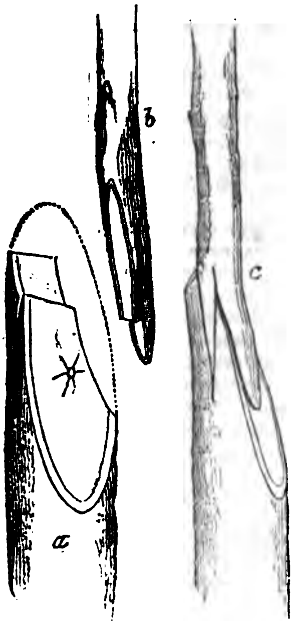
Maiden's Blush—second-rate.

Rambo—very highly esteemed at the West.

Rawle's Jannette—highly esteemed at the West or South West—blooms very late, and hence escapes spring frosts, and a constant bearer—a long keeper—has kept in Kentucky till past midsummer.

Root-Grafting Large Stocks.

In grafting upon large two-year stocks, half an inch or more in diameter, must the graft be placed on one side of the stock so that the bark on one side of each may match? Would you in such case prefer a cleft graft to a splice? *D. Herkimer Co., N. Y.*



Root-Grafting.

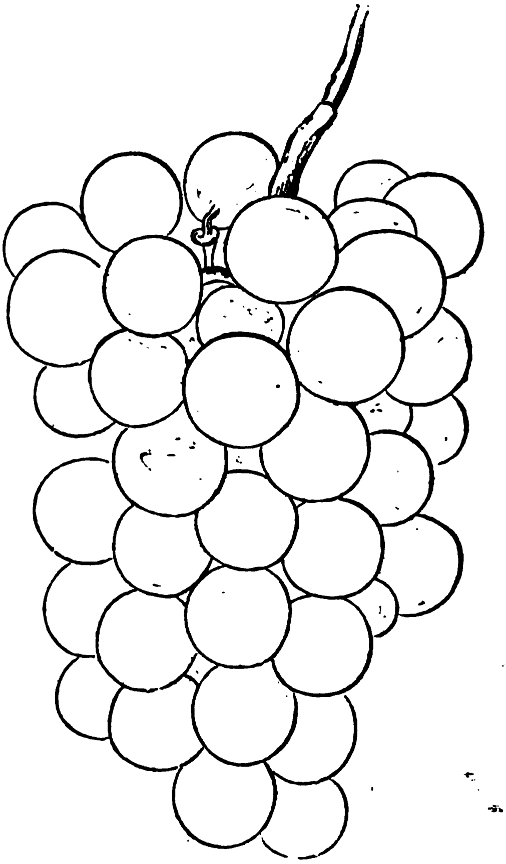
In all cases of grafting common fruit trees, the line between the bark and wood must coincide at some point in both stock and graft. Hence it becomes necessary to place the graft at one side. As we receive frequent inquiries on this subject, we give the annexed figs. to make the operation plain; where *a* is the large two-year stock, sloped and tongued for the reception of the graft *b*, which is also prepared with a corresponding slope and tongue. The mode by which the two are joined by being firmly locked together, is shown in *c*. To facilitate the wrapping of the wax-plasters, one side of the stock and its upper point are pared off with the knife, as shown in *a*, where the dotted line shows the original or full size of the face, after the first cut is made.

This mode is better than cleft grafting, on account of the close contact effected by *cutting* the faces of the tongue, instead of *splitting* them as more commonly practiced in cleft grafting; by the greater expedition with which it is performed; and by the greater ease with which the plasters or wax may be closely fitted.

CAMELLIAS.—Ghent is somewhat remarkable for its nurseries and gardens; the *Gardener's Chronicle* says there are orders from England alone, averaging from 10,000 to 20,000 plants annually.

The Diana Grape.

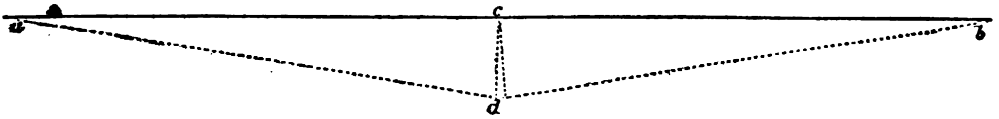
This new seedling American grape, which originated near Boston, appears now to have been fully tested, and has recently been figured and described in the *Horticulturist* and in *Hovey's Magazine*. The former work describes it as "superior to the Isabella and Catawba," and "the best of American Grapes," "ripening a week or ten days before the Isabella." It is of a pale red color, with less pulp and more juice than the Catawba, more delicate, and less of the peculiar wild taste of the native grape. It is an abundant bearer.



The Diana Grape.

The following is the description in *Hovey's Magazine*:—"Bunch medium size, about four inches long, without shoulders; berries medium size, round, closely set, forming a compact cluster, of a delicate pale red color, with a greyish bloom, not so dark as the Catawba; flesh with scarcely any pulp, juicy, rich and vinous, with a high, delicious flavor. Seeds generally two, rather small. Ripe from a week to ten days before the Isabella."

CULTIVATING DWARF PEARS.—Every intelligent fruit raiser is aware of the necessity of cultivating and manuring the soil well, for dwarf pear trees. S. B. Parsons states that he has 1700 trees on four acres—that he applied to this orchard last spring, $150 worth of manure, and gathered in the autumn 275 bushels of potatoes, 30 tons sugar beets, and a large quantity of turneps and cabbages—paying the expenses of manure and cultivation, and giving the pear trees a vigorous impulse.



Wire Fences.

In the last number of *The Cultivator*, A. B. attacks a statement, which gave strictly the results of *ten years'* experience with a wire fence. He commits the most singular error of entirely overlooking one of the first principles of mechanics, in his calculations. A little more modesty of manner would perhaps have been better, in thus deciding on the experiments of another.

In order to make the subject plain, it may be best to go into a little explanation. Suppose the wire, *a b*, ten feet long, is stretched so that a pressure against it sidewise, bending it three inches from a straight line, would snap it. Would the force thus required to break it, be as great as if the wire were drawn lengthwise? According to A. B.'s reasoning, the force in either case would be equal; but according to experiment and mathematical reasoning, the side pressure would be only about ONE TWENTY-FIFTH of the force required to draw it asunder lengthwise. Therefore, if a number 10 wire will sustain a longitudinal stress of 1500 pounds, as stated by Engineer ELLET, then a side pressure of more than 60 pounds would break it, if stretched as stated above.

For, in the action of all mechanical powers and forces, as every one perhaps knows, whatever is lost in distance is gained in power. But in pressing the wire three inches aside, it is drawn only about an eighth of an inch in length; consequently the force exerted, moving 25 times as far, is increased 25 times in power.

The dotted lines, *a c*, *b c*, show the position of the wire when pressed aside. If the wire were divided into two equal parts at the middle, the two ends would form the two curves *d c*. The sines of these curves would be the distance moved by the side pressure; and their versed sines, (bearing a very small proportion to them, but varying with the distance of the side pressure,) would show the actual increase in length in snapping the wire.

In all the different modes of constructing wire fences, it will be observed that effort is made to stretch the wire straight, which increases their liability to be broken, as shown above. I have seen a wire, strong enough to bear a draught lengthwise of 500 pounds, broken like burnt flax by a half year's calf, after the wire was stretched with the moderate strength of a man. A rod of iron, one-third of an inch in diameter, will bear a force lengthwise of nearly three tons weight; but when slightly stretched, I have seen such a rod broken by the bounding of a large steer against it.

Albany and Rensselaer Horticultural Society.

The annual meeting of this Society was held at the Rooms of the N. Y. State Agricultural Society, Feb. 6, 1850. JOEL RATHBONE, Esq., who had been the presiding officer of the society since its organization, declined being a candidate for re-election. The officers elected for the current year, are V. P. Douw, of Greenbush, President; E. P. Prentice, Mt. Hope, Herman Wendell, Albany, Stephen E. Warren, Troy, Amos Briggs, Schaghticoke, Vice-Presidents; B. P. Johnson, Albany, Secretary; Luther Tucker, Albany, Treasurer.

The exhibition on this occasion, was not large, on account of the severity of the weather—the mercury having been several degrees below zero; but there was, nevertheless, a tolerable show of fruits and vegetables, and a highly interesting display of plants and flowers—several of the specimens being new and in fine perfection. Messrs. Rathbone, Douw, Menand and Wilson, presented handsome collections of several kinds of plants. Mr. Wilson showed many varieties of Camellia Japonica, among which was the new seedling *Abby Wilder*, raised by Col. M. P. Wilder, Boston. The specimen exhibited, fully supported the high encomiums that have been bestowed upon it, and by unanimous consent, it was placed *first* among many fine kinds brought out on this occasion.

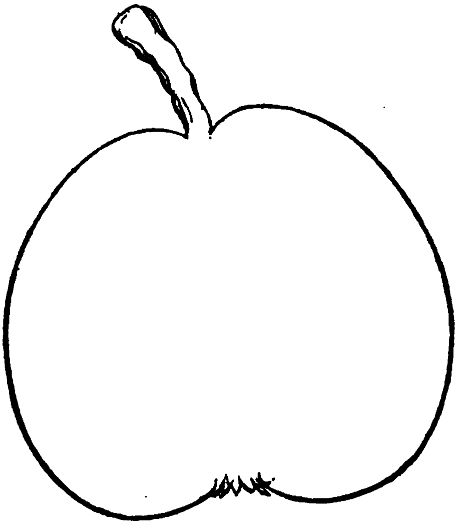
An herbarium, comprising upwards of one hundred specimens of plants, beautifully preserved, was offered for exhibition by Miss Eliza Cary, of Albany. It attracted much attention and high praise.

Messrs. Prentice, Morgan, Wendell, Gould, and others, each exhibited several varieties of apples. Dr. Wendell also showed samples of the Inconnue Van Mons pear. Joseph Cary showed excellent specimens of Isabella grapes. J. S. Gould exhibited very fine specimens of cauliflowers, which had been formed, chiefly, after the plants were dug, last fall, and planted in the cellar.

Kirtland Pear.

(*Syn.* Kirtland's Seedling, Seedling Seckel.)

One of the finest of all the new American pears, is the variety lately introduced to notice by Prof. J. P. Kirtland, of Cleveland, Ohio, and raised from the seed of the Seckel in 1819, by H. T. Kirtland, of Mahoning Co., Ohio. The fruit was exhibited at the fair of the N. Y. State Ag. Society held at Buffalo in 1848, from a specimen of which the accompanying figure and description were drawn. A colored figure appears in the Proceedings of the North American Pomological Convention, lately published.



The Kirtland Pear.

Description. Size medium; form roundish-obovate, regular; nearly the whole surface a rich cinnamon russet, resembling in this respect, the Doyenne gris, reddened to the sun and greenish in the shade; stem three-fourths of an inch long, thick, curved, slightly sunk; calyx reflexed, in a moderately deep basin; flesh very buttery, melting, rich, perfumed, of excellent flavor, equalled by very few sorts. It ripens early in autumn, before the usual pear season, which increases its value. The growth is vigorous. Dr. Kirtland states that "in hardiness and productiveness it far excels the parent Seckel; and in point of flavor it is esteemed as superior by many people."

Mulching Cherry Trees.

Cultivators have often lost newly transplanted cherry trees by the drouth of summer, after they have come out finely in leaf, and given promise of vigorous growth. We believe that no tree is more benefitted than this by mulching, or shading the soil with a thick coat of leaves or litter. During the past very dry summer, some very decided proofs of its eminent advantages were furnished, where dwindling trees were speedily restored to health and thriftiness, where neglect had not proved fatal. A Cincinnati correspondent of the *Horticulturist*, who remarks that "nature always mulches," states that by low heads, shaded position, and thorough mulching, he has succeeded in raising flourishing trees in that unfavorable climate, where formerly he had lost every one the first or second season.

Notes on Plums—The Curculio.

I. Elfrey, or Elfrey's Prune, of Downing.

I think this plum is not sufficiently known. It is a thrifty, hardy seedling, which bears most abundantly. It is well, though very briefly described by Downing. Its fruit, when perfectly ripe, is nearly first rate. Considering also, its slight exposure to the curculio, and its adaptation to sandy soils, it certainly should rank with the best varieties. I know of two families who cultivate the finest varieties of plums, who yet prefer the Elfrey to every other, as a constant dessert plum.

There are two facts in regard to it, not noticed in any of the books. The one is, the depth of its suture, on one side, extending often quite to the stone, even in the largest and most luscious specimens. The stone, too, as has been observed, frequently splits into two when the plum is opened. The other facts relate to the shape of its buds. These are blunt at the base, and the whole bud appears as set on mechanically.

This plum is very little liable to rot in hot and wet weather.

II. A Plum without Name.

I found on the grounds which I occupy, a plum which I consider very valuable, especially as a market plum, and which I cannot identify with any name in the books. As it produces the same from the suckers, it is of course a seedling.

The *tree* has a most perfectly wild appearance. It is a slow grower, dwarfish, hardy, has a broad, spreading, very close head, with small, wiry, and rather drooping branches. It is slightly thorny; and was mistaken by an intelligent grafter, for a wild thorn, and as such was actually grafted with a pear scion.

Fruit, smallish, round, with a slight suture on one side; colored like the Bleecker, (Lombard of Downing,) covered profusely with a very white bloom. The whole fruit, when divested of its bloom, is exceedingly like the Lombard, only rounder, and with a little more acid next the stone, and a little later.

Other valuable points of this Plum:—1. Hardiness. 2. Nearly an annual bearer. 3. It matures its fruit when profusely bearing, better than any plum of my acquaintance. 4. The tree is scarcely at all liable to the black knot. 5. It is equally safe from the curculio. 6. It flourishes in a sandy soil. 7. The limbs never break with over bearing, even when the fruit lies in actual heaps upon the tree. 8. The fruit never rots. Eatable specimens were found, on the ground, under my trees, as late as the 22nd of October.

III. The Curculio.

In the absence of novelty on this subject, corroboration may be valuable.

With an assistant, I spread two large sheets of white cloth under the tree, jar the tree suddenly, and kill the insect by a pinch of the thumb and finger. Three or four visits to the tree, after the curculio begins, have been found sufficient. To jar the tree, I use a stick made like a short flat ball club, covered with three or four thicknessess of carpet. With this in one hand, applied to a limb, and struck with a stone hammer in the other, the insect can be brought down with great certainty. I began with a long club covered with carpet, but found it bruised the bark quite frequently.

To perfect this plan, I would cover a square frame of poles with white cloth, leaving a slit in one side to the centre of the frame, so as to admit the tree.

The labor of taking care of a large plum orchard during the short season that the curculio works, is nothing to be compared with the value of the fruit saved. It should be known that plums, already stung, may be saved by cutting out the egg with the point of a sharp pen-knife. The curculio with his proboscis, turns up a little lip of the fruit, and lays his egg in its centre, where it may be seen like a minute drop of water. When the egg hatches, which it does, in a very short time, the worm drops down into the cavity made by the turning up of the lip, and finds his way to the centre of the fruit with incredible swiftness.

IV. Plums Killed by fresh Stable Manure.

Having read, somewhere, that fresh stable manure put around fruit trees in flower, would repel the curculio, I put some around my plum trees. As I had to take the manure when it was offered for sale, I was obliged to apply it a little earlier than I desired. Soon after a heavy rain fell, washing, of course, the soluble portion of the manure down upon the roots of the trees. Quite a number of valuable bearing trees died outright, and numbers more were seriously injured. This was dear bought experience.

I doubt the feasibility of this plan of repelling the curculio. If the weather be dry or windy, it can do very little good, unless the quantity be large, and then you endanger your tree. Fruit trees growing near to stables and hog pens, would more probably be benefitted. C. E. G. *Utica.*

Cultivating Young Orchards, &c.

I observe that it is recommended in plowing among fruit trees, to use "short whiffletrees." A friend, I notice, uses leather traces, with a flap of the same sewed on the outside of each near the end, sufficiently large to cover the ends of the whiffletree, which prevents the possibility of galling the trees.

I understand that the hickory tree may be grafted and transplanted successfully. I have tried grafting them but without success, and on account of their being tap-rooted, they seldom live when transplanted like other trees.

I wish to ascertain the proper method of transplanting hickories, and also the best time for cutting and setting the grafts. W. *Waterbury, Ct. Jan.*

Horticultural Miscellanies.

Mostly copied or condensed from the Proceedings of the North American Pomological Convention, 1849.

Wide Extension of Roots.—E. Harkness, of central Illinois says, "I have found the roots of young apple trees, not more than four inches in diameter, which had penetrated *four feet downwards* into the the clay subsoil, and *ten feet* from the collar of the tree," or occupying a bed of earth four feet thick and twenty feet in diameter. A tree one-quarter the diameter, or the size usually sold at nurseries, must have a proportionate extension; hence, in cutting a circle with the spade only a foot in diameter, in transplanting, a large portion of the roots must be cut off and left in the soil.

Manure for Fruit Trees.—Dr. Kennicott, speaking of the fertile lands of northern Illinois, says, "For fruit trees, especially the apple and quince, I have found barn-yard manure, half-decayed chips, charcoal, and ashes, [mixed] serviceable. I have tried lime, but except on a small peaty spot, without benefit. Mr. Dunlap says he has killed apple trees with ashes—perhaps he gave them too much. I have found them decidedly serviceable." Yard manure alone is not recommended for that region, and for peaches, plums and cherries, is considered positively injurious.

Fruits for Wisconsin.—F. K. Phœnix gives the following as the result of his experience with the cultivation of fruits in Wisconsin, where the thermometer often sinks to 20° below zero. *Plums*—Duane's Purple, Smith's Orleans, Emerald Drop, Imperial Gage, and Long Scarlet, prove *tolerably hardy*. *Hardiest Pears*—Urbaniste, Flemish Beauty, White Doyenne, and Easter Beurre. The Bartlett, unusually tender. Of *Cherries*, Mayduke, Arch Duke and Downer, are hardiest. The Clinton grape is perfectly hardy—the Isabella needs covering. Of *Apples*, Early Harvest, Keswick Codlin, Dutchess of Oldenburg, Drap d'Or, Fameuse, Autumn Strawberry, Pomme Gris, and others, are hardy, and maintain their eastern reputation. Rhode Island Greening, Roxbury Russet, Baldwin, Rambo, Esopus Spitzenburgh, and others, are tender. The application of old, well-rotted manure, in moderate quantities, induces an early maturity in growth in apple trees, and enables them the better to withstand the cold of winter.

Leaf Blight in the Pear and Plum.—F. R. Elliott says,—"The leaf-blight has been more extended in the pear and plum this season, than in any previous one in Ohio. Application of common salt and wood-ashes to one tree, and wood-ashes alone to another plum tree, has rendered them free from leaf-blight, and a continued healthy appearance throughout the season. Application of poudrette, ground bones, ashes and lime, all mingled, have rendered pear trees healthy and free from leaf-blight, while those 30 ft. distant, without such application, have been affected.

Fruits at Plattsburgh, N. Y.—J. W. Bailey states that he has found the application of leached ashes a preventive for mildew in the *gooseberry*. Out of 300 peach trees *in bud*, many were killed to within a few inches of the ground, and only about 20 of the inserted buds survived, having had no protection, and the thermometer being for *nineteen* days, below zero, and at one time 20° below. The most profitable *apples* at that place are Early Harvest, Bough, Toole's Indian Rareripe, Esopus Spitzenburgh, Rh'd Island Greening, Swaar, Roxbury Russet. Fameuse has proved very fine, till lately affected with bitter rot. Westfield Seeknofurther, of second quality, and moderately profitable. Pomme Gris, "the richest of all winter apples," but too small for profit. St. Lawrence, profitable as a cooking apple. Rosseau, unprofitable; Bourassa, uncertain; Yellow Bellflower, promising well.

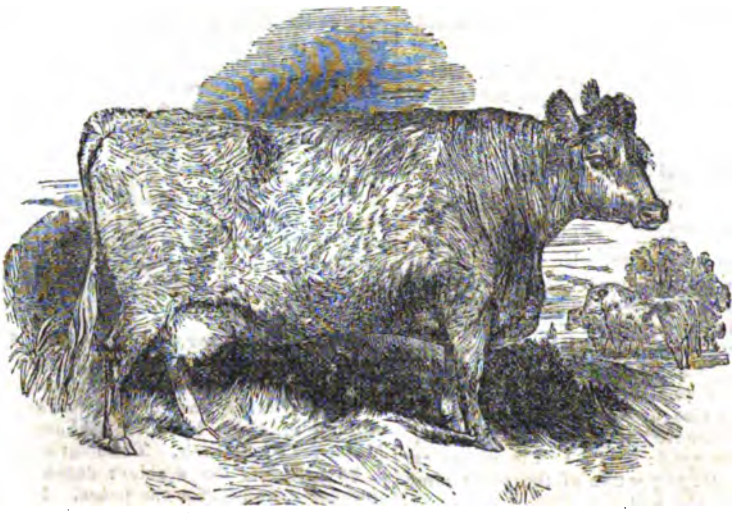
Louise Bonne of Jersey.—This fine variety of the pear, so peculiarly adapted to the quince stock, is remarkable for its early productiveness. The N. E. Farmer states that two trees were bought in the autumn of 1848, by J. Washburn, of Plymouth, Mass. for $1.25 each. The next season he received a $6 premium for a select dozen of pears which they bore, and $3 for the pears. It is scarcely necessary to say that their cultivation was by no means neglected.

Grafting and Improvement.

The address of J. R. Williams, before the Kalamazoo Agricultural Society, Mich. contains much good sense. The following remarks on the ease with which every man may improve the quality of his fruit, are applicable to latitude and meridian of other places besides western Michigan:—

"As it is with animals and vegetables, so it is with fruits. You can have stunted, astringent, crabbed fruits, or the most delicious. The precaution to send your neighbor's boy to snip off a shoot from a fine tree, while you are stopping to decide the affairs of the nation with him—a few minutes taken to slide it under the bark, while you are waiting for a meal at home, will transform a useless shoot into a valuable tree, that shall furnish pleasure and nutriment to generations of men. A few minutes improved now and then which would be otherwise idled away, will surround your dwelling with a grove, which shall prove of the greatest utility, and delightful embellishment. I know men say they have no time, yet I have always observed that the men who make this excuse, have plenty of time to lounge at the tavern,—plenty of time to run after some mountebank or charlatan, plenty of time to litigate with a neighbor. No, man! plant the tree. It will grow while you sleep. Bud it. Graft it. Nurse it, and it shall gladden the sight and please the palate of people yet unborn, and you shall have a memorial of your existence, springing from the green sod, when you shall repose beneath it.

"Some five or six years ago, I found on the place where I reside, some scrubs of natural fruit. The tops of my trees my neighbors said were too large to graft. But they were grafted with considerable labor. My predecessor might have budded or grafted each with a single germ, and saved me nineteen-twentieths of the time and expense. Another set of men told me the country was not natural for fruit. I put in the grafts and for years have had an abundance of delicious fruit for the table or cookery, for myself and my neighbors, in summer, fall, and winter, and I find none will eat it more greedily, than those who have no time to graft their own trees, and who curse the climate as unfit for fruit."



SUFFOLK COW.

Suffolk Breed of Cattle.

The origin of the various polled breeds of cattle, is involved in some doubt. There has existed from the earliest times to which history reaches, a stock of wild cattle having generally this peculiarity, and they are carefully preserved at this day, in Chatelherault Park, Lanarkshire, Scotland,—the residence of the Duke of Hamilton. But whether this is the parent stock of the present polled breeds, is a question not so easily settled.

The most noted of the domestic varieties of polled cattle are the Galloway, the Angus, the Norfolk, and the Suffolk. Of the latter, represented by our cut, Martin gives the following description:

"In Suffolk, a breed of polled cattle, known by the name of Suffolk duns, has been long celebrated; though the dun color is now by no means a common character; indeed it is not preferred; for with late improvements, other colors, as red, red and white, brindled, and yellowish or creamy white, have almost abolished the dun. There can be little doubt but that the polled Suffolk cattle owe their origin to the Galloways; not that they are of the pure strain of the Galloways: on the contrary, they are the result of interbreedings with them; and their chief qualifications are as milkers, rather than feeders; although, in this latter respect, even the lean cows when dried, show no little of the properties of their Galloway progenitors. A good Suffolk milking cow is lean and spare, with a light thin head, a clean neck, little dewlap; slender, but short limbs; a heavy and well-ribbed carcass, a large udder, and swollen milk veins. Generally the hip bones are high and prominent, the loins narrow, and the chine hollow. There is in all this, nothing of the true Galloway contour, and where the points characteristic of this breed prevail, though but in an inferior degree, the animal is fitter for the feeder than the dairyman.

"Few cattle excel the Suffolk as milkers; a good cow, in the plentitude of her milk, will often yield six gallons a day; some have even yielded eight.

"The Suffolk dairy-farmers in general pay but little attention to their breed of cattle; or rather, are actuated by no sound principles. They usually kill the bulls in their fourth year, irrespective of their intrinsic excellence; and the valuable and the worthless share the same fate: consequently, should the progeny of any particular bull exhibit more than ordinarily good qualities, the chance is, that no advantage can be taken of the discovery, the sire having been slaughtered before it was made. Besides, the bull is in perfection from his fourth to his seventh year, and this is an important consideration. The heifers are also bred from at too early an age, before the system is fairly matured; in consequence of which their growth is stopped, or their constitution enfeebled. Indeed, unless the cows display more than ordinary qualities as milkers, it is not unusual to fatten them for the butcher at four years of age; a plan which surely cannot be commended.

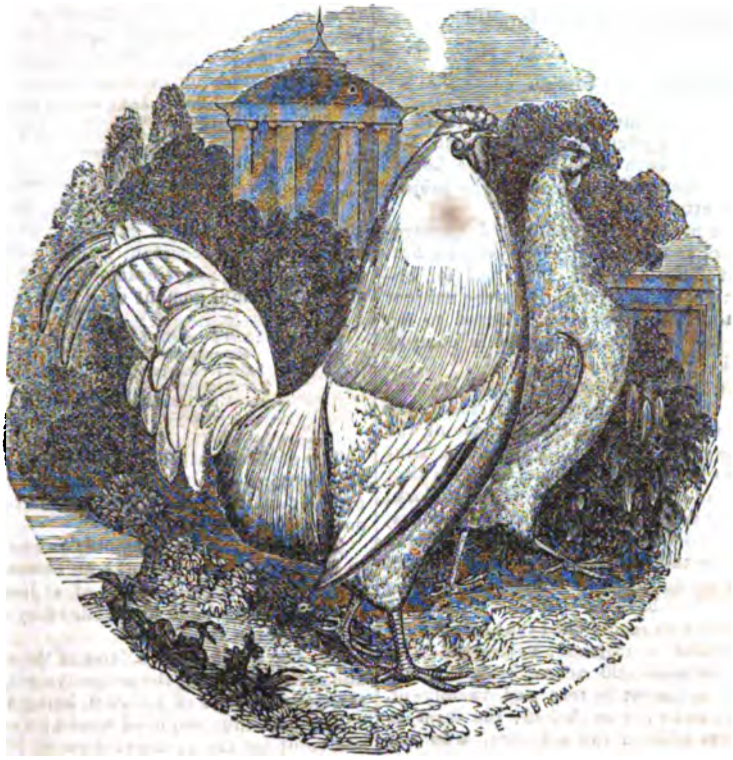
"When dried, the Suffolk polled cow acquires a good condition with considerable rapidity, and fattens to forty or forty-five stones; the meat is of good quality—that, indeed, of the ox very superior."

In the communication of JOHN W. PROCTOR, Esq., published in our last volume, p. 373, some hornless cows belonging to Mr. STONE, are mentioned as remarkable for the production of butter. Mr. P. has sent us the following letter, received by him from Col. JAQUES, in reply to an inquiry relative to the importation of polled cattle. The stock therein described, was probably the source of many of the hornless cattle, erroneously called Galloways, which have been raised in New England.

Ten-Hills Farm, near Boston, December 10, 1849.

JOHN W. PROCTOR, Esq.—In reply to yours of the 3d inst., I will state, that the only importation of polled or hornless cattle, into New England, of which I have any knowledge, was made about 1797 to 1800. A gentleman by the name of Joseph Russel, then residing in Boston, imported, I think, six cows and a bull, and placed them on what was then called Hog-Island, now called Belle-Isle, situated in the town of Chelsea. They were there bred pure for fifteen or twenty years.

I visited the island frequently, and watched the progress of these cattle. I found them hardy, good handlers, taking on flesh readily, and as milkers, much above our common stock. The calves from the imported stock, were generally raised for breeders, and many were sold. At one time, a large proportion of the cattle in Chelsea, were of this polled breed. But the people of that place gave little or



Dorking Fowls.

At the great poultry show at Boston in November last, some very handsome Dorking fowls were exhibited by Dr. E. Wight, of that city. They were bred by him from imported stock. They were of medium size, very beautiful in form, and uniformly of a clear white color. Dr. W. informed us that he had found the stock hardy and prolific; and that after numerous trials he had adopted them for general purposes, in preference to all others.

The above figures were taken from a pair of Dr. W.'s Dorkings, and, excepting some unnaturalness of position, are good likenesses.

The principal points which Dr. Wight prefers in his Dorkings, are given by him as follows: "A fine head, with brilliant, reddish-tinged eyes; single or double combs, in both sexes; a graceful neck, rather short than long; wide, deep, projecting breast; the body is not only long, but is round, rather than flat or square; and the legs, considering their large size, short, and invariably of a silvery white. They move with an approach to the majestic. Their colors are (those I have imported at various times) both white and speckled; but I preferred to retain the white, and have bred from them. My stock is now entirely white. A cross with the Dorking, improves the shape of most other fowls."

For a description of the Dorking breed of fowls, see *Cultivator* for 1849, p. 113.

no attention to the preservation of the breed, pure, and they soon became more or less mixed in blood.

The oxen of this stock, were rather ill-looking animals; often having little, loose horns, attached to the skin only, dangling about their faces. The pure blood cows were frequently allowed to go with any little runt of a bull. The late Dr. Benjamin Shurtleff purchased a farm in Chelsea some 30 years since, and soon after obtained several of these cows. I had frequent conversations with him in regard to them, and he always spoke highly of their milking properties.

The blood of these cattle has been considerably disseminated in Massachusetts, New-Hampshire, Vermont, Maine, &c.; but I think it doubtful if the pure breed, possessing all the original distinguishing characteristics, can now be found in this neighborhood.

There are several varieties of hornless cattle. The Scotch Galloways are celebrated as beef cattle, and are said to give rich milk, but not a large quantity. It is thought they have never been improved by crossing with any other breed. The Suffolk duns have been held in high reputation as milking stock. I am inclined to think the animals of the Russel importation were of this variety. Respectfully, &c.,

SAMUEL JAQUES.

BURNING STRAW.—An intelligent correspondent of the *Prairie Farmer*, says, if he had a thousand loads of straw he should want a good pile of dollars to induce him to set fire to it. He remarks that the rich prairies have a better supply of alkali than of vegetable matter, having been yearly burned from time immemorial. He mentions several instances in which the product was invariably greater where the straw was buried without burning. After his heaps of straw have been soaked with rain, he treads them down with horses, and the next spring the rotted heap is spread on corn ground, where "it shows for itself." On soils with much vegetable matter, burning may be perhaps the best.

PEORIA PORK PACKING.—The number of hogs packed last year in Peoria, Ill., was about 30,000

The Farmer's Note-Book.

Agricultural College.

The Report of the Commissioners appointed to prepare a plan for an Agricultural School and Experimental Farm, has been submitted to the Legislature by the Governor, who commends the subject earnestly to their attention.

Having, in their preliminary remarks, demonstrated the necessity of some liberal provision for a better education of the agricultural class, and for eliciting and disseminating information on the subject of agriculture, the Commissioners proceed to lay down their plan, the substance of which is comprised in the following extracts:

Impressed with these considerations, and desirous of establishing a college for American farmers, the Commissioners, in pursuance of the request of the Legislature, have made full inquiry into the subjects submitted to them, and they feel sensible that an institution founded by the State of New-York, should be adequate to the just claims of the farmers, as a class, and worthy of the character of the State. To combine this with economy, and to make it an institution eminent alike for efficiency, science and practical skill, has been their aim. With these views, they beg leave to recommend that an agricultural college should be established, connected with an experimental farm of 600 acres, which would probably combine sufficient extent and variety of soil for the objects to be accomplished: the farm to be cultivated by the labor of the scholars, who are to be employed four hours a day in practical agriculture, in all its various branches. Among these may be enumerated, the laying out the farm and garden in various modes, adapted to circumstances; the setting out of plants and trees; grafting, budding, pruning, transplanting and rearing of fruit trees; the different modes of fencing grounds, with the relative advantages and cost of each; the various qualities of forest trees, in reference to fencing and building purposes; the best mode of breeding and feeding stock; the comparative advantages of the various breeds; how to discover defects, and the way to remedy or eradicate them; the proper time to sell produce, and how to put it in market; the manner of keeping farm accounts; and, in short, a full course of instruction as to the management of a farm. These scholars to be 16 years of age, to be apportioned among different counties—say two for each Assembly district, to be nominated by the board of supervisors, and the expenses of their tuition, with board, washing, fuel and lights, to be only $100 per annum; as the produce of the farm, under proper management, will furnish no small part of the supplies of the table. Besides these scholars, there may be others admitted, at $25 per annum; who will board in the vicinity, at their own expense, but who will be required to submit to all the college rules, and to labor with the other pupils.

The applicant for admission into this institution, should be well versed in the rudiments of a good English education, and should be subjected to a strict examination on the following subjects: grammar, geography, and arithmetic as far as proportions.

In this examination, regard will also be had to the ability manifested in the ready and practical use of these rudiments, and to the proper mental discipline requisite for the successful prosecution of the course of studies contemplated in the institution.

For the proper management of the institution, there will be required a President, who must be a scientific and practical agriculturist. The plan, therefore of the Agricultural Committee, would require the following professors, viz:

A Professor of Chemistry and Chemical Manipulation.
" " Natural History and Mineralogy.
" " Mathematics, Engineering & Practical Surveying.
" " Botany and Horticulture.
" " History, Law and General Science.
" " Veterinary Art and Anatomy.

There should also be a farmer, having charge of the farm and stock, a gardener, carpenter, mason, and blacksmith, constantly employed, with the view of giving some practical knowledge of arts so essential in the management of a farm.

Allowing $2,000 salary for the president,	$2,000
And 1,250 for each of the professors,	7,500
400 each for the farmer, &c.,	1,600
1,000 for laborers,	1,000
Contingencies,	600
Stock for blacksmith,	300
	$12,900

The students at $100 each, would contribute $25,600, leaving a surplus of $12,700, which, with the produce of the farm, would go far towards the support of the college.

The Commissioners would, however, recommend to the Legislature to make an annual allowance for the support of the college, of at least $10,000, until it shall have been ascertained by experience that it can sustain itself.

For the purchase of a farm of the extent required, and comprehending the proper variety of soil, an estimate was made of $24,000, being $40 per acre.

The buildings required would be one for lectures, sufficient for the accomodation of 500 students.

The college halls, comprehending lecture and recitation rooms, library and chemical laboratory, 100 feet long and 60 feet wide,	$10,000
The dormitories, comprehending the president's house, 500 feet long, 40 feet wide,	36,000
Chemical apparatus and library,	10,000
Farm-house and furniture,	3,000
Barns and out-houses, stock and implements,	10,000

A strict account of debit and credit should be kept, under the direction of the President, with every department of the institution, and rendered annually to the Legislature, on the first of February, so as to show the profit or loss of each department The institution should be located at some point conveniently accessible from all parts of the State; and the pupil should be taught a varied system of farming, adapted to any market, and also, how to supply himself with the means of fertilizing land wherever he may be placed.

The course of instruction would require an attendance of six terms, one commencing the first of February, and continuing to the summer vacation; the other commencing about the 20th of August, and ending the middle of December. In summer, the scholars would ordinarily be required to labor 4 hours daily, while, in winter, the hours of labor would be one hour in the morning and two in the afternoon. The residue of the day would be occupied in studies, lectures and recitations.

With such a course of education, rigorously carried out, our State would reap, in the benefits conferred on this important interest, a thousand fold all the expenditure made in such an establishment. Careful examinations would be made into all matters connected with agriculture; comparisons had of the various modes of producing certain results, and records preserved, showing which is preferable; authentic statements made of agricultural experiments, creating order and system, and reducing to science the heterogenous and often discordant mass of materials collected in agricultural journals. The character of the soils in different sections of the State would be carefully analyzed, and farmers instructed as to the most successful and proper plan of increasing and preserving their fertility.

The best breeds of domestic animals would be here collected, and specimens distributed through the state, to improve the stock in the hands of farmers.

Nor are these direct advantages, great as they undeniably are, at all to be compared to those flowing from the general diffusion of a better system of agriculture. When we reflect that 100 young men, thoroughly instructed in scientific farming, are annually qualified for their business in this institution, it may well be deemed the NORMAL SCHOOL of farmers. In their several districts they will excite a spirit of emulation, both by precept and example. Farmers will feel that their noble pursuit, justly deemed the mother of arts, is honored by public attention, and become the care of the government: that in this Republic, as well as in ancient Greece and China, it is not beneath the dignity of those in authority, to encourage and honor a pursuit that is the chief intermediate agent between man and the bounty of his Creator.

To carry out the views of the Commissioners, the undersigned would recommend that a law be enacted authorising the establishment of An Agricultural College connected with an Experimental Farm, making the necessary appropriations for the object, and directing that eight commissioners, one from each judicial district, be appointed by the Governor, to locate such institution with authority to purchase the farm, and proceed forthwith to erect the necessary edifices, fixtures and appurtenances; to supply the same with suitable farm implements, farm stock and teams; to procure suitable animals of all kinds for breeding the most improved farm stock; to procure the apparatus for a chemical laboratory, and a philosophical apparatus; to purchase a suitable library, not to exceed $5,000 in cost; to purchase and procure whatever may be necessary to put such institution in complete operation, and to select and appoint suitable persons to fill the several professorships and stations connected with the institution.

The commissioners should have power to select three of their number to proceed to the erection of all such buildings and edifices, and fixtures and appurtenances; and the procuring of such implements, farm stock and teams, (as may be necessary;) to select and procure suitable animals for breeding farm stock; to procure such chemical and philosophical apparatus, library, and other things as may be necessary for said institution; and for this service they should receive a compensation of $ per day, while actually employed.

Premium Crops—Bennington Co., Vt.

EDS. CULTIVATOR—Above twenty years ago, an agricultural society was formed in this county; but it did not continue long. Another was established three years ago. Our fair last September was well attended. The show of cattle, horses and sheep, was large, and would have been creditable to larger counties. On the second day, an excellent address was delivered by Judge Ball, of Hoosick Falls, N. Y. The committees on crops, lately met to award premiums. I send you herewith the substance of their reports. JOHN S. PETTIBONE. *Manchester, Vt., Jan.* 19, 1850.

INDIAN CORN—four acres—to Joseph Parker, of Rupert, the first premium. The product was 427 bushels and 47 quarts. The land had been down to meadow four years. The land was plowed deep, and 20 loads green manure per acre turned under. It was plastered three times, and about 12 bushels of ashes applied to the piece.

The 2d premium on four acres was awarded to Lemuel Bottom, of Shaftsbury, average 68 bushels per acre. Land sandy loam. The three years previous, down to meadow—30 loads coarse manure per acre, spread on before plowing; plowed the 1st of May—then harrowed and marked out both ways, 3 feet 1 inch apart; manured in the hill, 10 loads per acre; planted 15th May; seed rolled in plaster; hoed 3 times; cut up about the 20th of September. Whole expense for four acres, $26.75.

Best one acre of corn—the first premium was awarded to W. R. Dean, of Manchester, 111 bushels 27 quarts per acre. Land, loam; plowed and rolled on the 9th September. In the spring, 55 loads of coarse manure were carried on; then plowed, then spread on 10 loads fine manure and harrowed; planted 18th May, 3 feet 3 inches apart each way; seed, long 8 rowed corn. It was plastered soon after it came up, using half a bushel of plaster; hoed twice, plastered second time hoeing with ¾ bushel. The land had been down to meadow ten or twelve years.

The second premium to D. Spenser, of Shaftsbury, 108 bushels; land had been down to meadow several years; manure spread on before plowing, and ten loads sheep manure after plowing; planted 3 feet 4 inches each way.

Third premium on one acre, to Robert Ames, Manchester, 106 bush. per acre; land gravelly loam; 30 loads coarse manure spread on the acre and plowed in; harrowed, then spread on 12 loads fine manure; planted 3 feet 3 inches apart each way.

F. Canfield, of Arlington, presented one acre; land gravelly loam; crop much injured by the drouth; gave 85 bushels per acre; the samples from this field were the best presented, being very hard and dry.

Best half acre of corn, to George M. Vaughan, of Arlington, 57 bushels 17 quarts. The land on which this corn was raised had been, till about 1814, a pond of water. The outlet was at the south end. A sand ridge 50 or 60 feet above the water at the north end of the pond, was tunnelled by S. Deming, Esq., of Arlington, and the water drawn off to the north. Nearly 30 acres of land was thus reclaimed. The descent from the tunnel was 8 or 10 feet lower than the pond, and the whole embankment was carried away, so that the stage road now passes through this gulf. The land was put down to meadow, notwithstanding there was a descent of 8 or 10 feet to draw off the water; and a channel 3 or 4 feet deep through the meadow, was cut by the current. Yet the land was sowed, and produced coarse grass. Mr. Vaughan has cut several ditches on the margin and through the meadow, 2½ or 3 feet deep. Between these drains, the corn was grown. The advantage of draining was clearly demonstrated. The corn produced was a new kind, produced by a cross of the 8 rowed yellow corn, with the white 8 rowed and red blaze variety. These kinds were three years ago, planted side by side, and the seed selected which was most equally mixed, and planted the next year by itself, apart from any other corn; and from seed selected from this crop, the corn of last year was grown. The sample presented was a beautiful 8 rowed yellow corn, each ear being marked on the top with the red blaze. The ear is long, with a small cob. We were informed by Mr. Vaughan, that the top of the stalk or tassel, was of the red blaze mark. Mr. Vaughan is an enterprising young farmer, who by his industry and good judgment, is making great improvement in farming. A little *book knowledge* would not injure such a farmer.

Barley—1st premium to John W. Vail, of Bennington; 50 bushels per acre; sowed after corn, with the two-rowed variety, 3½ bushels per acre; weight 47½ pounds. Four bushels is recommended to the acre, for seed.

George Barnard, of Dorset, raised 25 bushels from 1¼ bushel of seed.

Spring Wheat—Premium to Nathan Bates, of Shaftsbury; 22½ bushels, on meadow land turned over; one bushel western plaster per acre; no other manure.

Rye—Premium to M. Wheelock, of Shaftsbury; 22½ bushels per acre; meadow turned over; no manure.

Buckwheat—one acre; premium to F. H. Canfield, Arlington, 33 bushels per acre.

Oats—1st premium to Alonzo Hinsdill, Bennington, 503 bushels on five acres. 2d premium to L. Bottom, Shaftsbury, 90¾ bushels per acre. 3d premium to S. Ames, Shaftsbury, 78½ bushels per acre.

Broom Corn—1st premium to Alonzo Hinsdill, Bennington, 444 lbs. clean brush per acre. 2d premium to P. M. Henry, Bennington, 375 lbs. per acre of clean brush.

Growing Potatoes from Seed.

Eds. Cultivator—I see by the January number of *The Cultivator*, that Mr. Charles W. Taylor, of Bucks Co., this State, has given you a statement in regard to the rot in potatoes still prevailing in his vicinity, and then goes on to say that he received some seeds of the potato from Rev. N. S. Smith, of Buffalo, and after giving the result of his experiment, is "sorry to add that they rot as bad, or even worse, than any of our other kinds; although they had the advantage in regard to time of planting, manure, situation, &c."

Now as I also was a recipient of Rev. N. S. Smith's favors, having received a half-ounce of his seed last spring; my experience with these seeds being somewhat different, or at least my success with them, leads me to a different conclusion, as regards their healthy nature; I will state the result. I also started the seeds in a hot bed, (about one-half of them) in the spring, and at the proper time transplanted the small plants to the open ground. As we had a long spell of dry weather in this section, commencing about the middle of June, and (with the exception of two or three sprinklings of rain,) continuing to the first week in October, a period of over 100 days. During all this time, vegetation was at a stand still. These small potato plants consequently suffered severely, many, nearly one-half, died from the heat and drouth. The balance remained stationary and barely alive, till a few weeks of moist and warm weather in October gave them a start, when frost arrested all further growth. I then took them up, and the produce was over a bushel, from the size of a pea, up to the size of eleven inches in circumference—of all sorts, sizes, shapes, colors and qualities.

Now as regards the rot. Although we had no *rot*, properly speaking, on any of our potatoes in this section of country, that I am aware of, last season, yet the plants of all the old varieties appear to lack that healthy, vigorous and flourishing appearance, which in former times, (that is previous the rot being known,) belonged to the plants. Indeed it is a rare thing now, to find the common, or old varieties, producing flowers and seed balls, and the plants generally have a yellow and sickly appearance. On the contrary, these seedlings, when the wet weather commenced, at once put on a healthy, robust, and thrifty appearance, such as I had not seen for years. The plants were literally covered with blossoms, and had more the appearance of a row of *flowering plants*, than an esculent vegetable, producing seed balls in profusion; owing to the lateness of the season, however, they had not time to ripen. Now of course, I am not prepared to say that these seedlings will retain this healthy condition another year—or that they will escape the rot any more than the old varieties; but the presumption that they will do so, is greatly in their favor. J. B. Garber. *Columbia, Lans. Co., Pa., Jan.* 14, 1850.

Application of Marl.

Eds. Cultivator—I have a great quantity of blue marl. I spread some on grass land one year, and it took all the grass out by the roots. I again spread some on the land another year, and plowed it in, but did not perceive any benefit from it. The marl is about one hundred feet above the tide, and is full of different kind of sea shells. My farm contains 477 acres of land, and there is about one hundred underlaid with this marl. The surface is a tough sod for about eight inches, and then you come to a rusty sand, about a foot deep, and then to a black or dark blue marl, soft and full of shells, about three feet deep; then to a whitish marl, rather harder and full of shells, and when it comes to the air it slackens, like lime, so that you can shovel it up as you might a heap of ashes. I would like to know in what way it can be made profitable. Joseph Warton. *Saint Andrews, N. B., January* 15, 1850.

We should be glad to receive suggestions in reference to the above. Eds.

Sheep Husbandry.

Eds. Cultivator—Mr. St. John, whose profitable sheep husbandry was noticed in your paper of this month, is beyond doubt a skilful shepherd, and many of your readers will be divided in opinion whether his profits were 27 or exceeding 100 per cent. Now Mr. Pettibone, whose very intelligent communication was published in your paper in April last, will tell you that the hay those sheep consumed during the winter at $7 per ton, would cost $60. Mr. St. John will tell you that seven of those sheep did consume as much pasture as one cow. Estimating the pasturage of a cow at two shillings per week, would make the summer pasturage of these sheep worth at least $50. Now add two dollars and fifty cents for washing and shearing, and it would leave a little less than 7 per cent. profit on the cost of those sheep. In the estimated expense, no account is made for grain fed to make sheep fetch, without their fleeces, 18 shillings per head, which cost but 9 shillings at their purchase, or for their care in summer, or the foddering of sheep and nursing of lambs during winter.

Another consideration. Those lambs, to be yearlings now, must have been winter lambs; and their feed from January to July, is deserving some little consideration in the account; particularly when 45 sheep with them included, are estimated to be worth more than fifty of the original stock.

It certainly can be no imputation upon our farmers that they do not grow wool enough to meet the consumption of the country, when they have no greater encouragement than the success of Mr. St.

John, favored as he was in location, in good luck, in good sense, and in skill and experience. A Farmer. *Hillsdale, Feb.* 4, 1850.

Green and Dry Wood.

Eds. Cultivator—" Green wood will last longer than dry; and so will straw for cattle last longer than hay." This declaration was long since made by an author calling himself " The Prompter." But durability is one thing, and utility is another; and who has not learned the comparative value of green and dry wood? And yet how few lay up in store for an equinoctial rain, or a winter's snow! And how many, otherwise good providers, perhaps, have put off the building of a wood-house for ten, twenty, or thirty years, and many who have one continue to simmer away their two barrels of water from nearly every cord they burn. All will admit these things ought not to be so; but the most common objection to the timely preparation of wood, is the great amount of labor required at one time; and for this reason it is deferred to a " more convenient season," or until it *must be done.*

And now, as the time for getting good is close at hand, I would beg leave to present to your readers a remedy for some of these evils, and hope my brethren of the mallet and the plow, will not think me egotistical if I should make some allusion to my own experience.

Let trees be fallen and cut at such a length that a team will draw them on a bob-sled, to the place desired. Lay them together on poles lying at right angles on the ground; attach a cross-cut saw to a horse-power so geared that the crank will make about thirty revolutions, while the horse goes once round a circle of about twenty feet diameter. If the horse is a good walker, this motion is quick enough for the safety of the saw, and if well constructed, one horse will do the work; but two are better to keep up a strong steady motion. A light balance wheel is necessary to give regularity to the motion. Two posts should be erected about 2½ or 3 feet apart, one side of each, nearly in line with the saw, a square groove in the sides, next the saw; another piece fitted and screwed on at the top and bottom, with a corresponding grove; the wood about an inch apart, with the saw between. Next four pieces of hard wood so fitted as to slide in each groove and nearly touch the saw. Let each pair be screwed together above the saw with two wood screws, pinching a piece of hard leather at each screw, nearly to the thickness of the saw; the lower piece between the lower screw and the back of the saw; the slides of sufficient length to keep the saw steady, and play so easily in the grooves as to rise and fall with the saw.

There should be a safe and convenient way of raising and letting down the saw, without stopping the horse. I prefer a ten or at most a twelve inch crank, and a pitman, in two parts, introduced with a joint into a swing, suspended some ten feet above. A rail track thirty or forty feet long, placing the end of each bed-piece at the posts through which the saw plays. The car which carries the last end of the log, may be made with two wheels and an axle, with arms framed into the back side at such an angle that the ends will follow the wheels, and so beveled forward that the weight will be a little back of the bearing, and to this axle the log should be dogged firmly. The first end of the log should rest on a roller or windlass, the middle so girdled down that the log will keep the centre, and spikes driven in to draw the log forward. A piece should be fastened to the out side of one of the posts, about even with the bottom of the log, for the block to rest on until it is sawed quite off, the other end to be raised or lowered at pleasure. Without this, the block will frequently drop, taking a sliver with it which may make trouble. The pitman should find a resting place when the saw gets through, so that if it is not raised immediately, it can do no injury.

Such a machine has no electro, nor railroad speed, but it is got up mechanically; is a good investment of some fifty dollars; but if " botched up," it will probably prove a failure, and be thrown away in despair. I have used one four seasons. My custom is to haul the wood on snow—a supply for a year or more; in the spring saw and split, throwing it into a pile; let it lie through the summer, and then put it into the wood-house. One man finds business enough to split and throw back as fast as it will saw. I find it an easy and quiet way of making wood.

For sawing wood exclusively, I would recommend a cast-iron horse power, with just wheels sufficient to get up the motion; as it would probably be the cheapest and most durable, and when the sawing was done for the season, it might be put away. A buzz saw might be connected to saw the limbs. The advantages of using mostly dry wood for a stove, are many. There is the joy-lighted countenance of the " better half," the pleasure of children, comfort of guests, the ready kindling, warming and cooking; and when the wood is cut in this way, the uniformity of length, the saving of labor, the saving of logs that would otherwise go to waste, the saving of chips, and the having it done up for the season. Calvin Stow. *Braceville, Ohio, Jan.*

Muck as the Basis of Compost.

Eds. Cultivator—The subject of manure, is one of increasing importance in the older sections of our country, and especially in New England. The increased facilities for transportation are bringing the products of the virgin soil of the west, in direct competition with our own, at the same time that our hill-sides are degenerating by continued cropping and the washing of rains. Far be it from us to decry the improvements in locomotion. We could not, if we would, and we would not if we could, put one straw on the track of the iron horse. We might as well dam up the waters of the Mississippi with bulrushes, as stop the flow of western products into our eastern markets. We do not murmur at this, but rather with an enlarged view of the prosperity of the whole country, gird ourselves anew for a noble competition with our western rivals.

We do not propose to consider here what changes the eastern farmer might make in the products of his soil, to meet the new exigency in his situation, but rather very briefly suggest what change can be made in the soil itself. If any one thinks that the same crops can be raised, that his father has raised before him, and with the same cultivation, he is behind the times. Fortunately there are few such among us. All the considerate, are looking to the compost-heap, as alone affording the *ammunition* wherewith to contend against our western rivals. As the basis of this compost-heap, I would urge the claims of *muck*, the partially decayed vegetable matter abounding in our swamps. With this resource on his farm, every farmer can double his manure and consequently his products. I speak not from theory, merely, but from actual experience, for in the past six years, the yield of my farm has been more than doubled, and the increase has been owing mainly to the use of muck in the compost-heap; and I am by no means satisfied that the maximum product has been attained.

My mode of operation is to draw from the swamp whenever leisure permits, and line my barn and hog yards with the muck, a foot thick. Whenever the hogs have well composted their allowance, (and they work very cheap,) I give them another. Also under my horse-barn, and under my stable windows, I am sure to put a coat of muck, whenever there is a sprinkling of manure. By the side of my swamp, I draw out, mostly in the winter, different piles, and with one, mix a few ashes say one load of ashes to ten of muck, and with another a little manure, if it can be bought—say one load of manure to three of muck—and with another a dead horse from the neighboring village. These separate deposites are shovelled over as convenience may allow during the summer, and in the fall mostly used as a top-dressing on the meadows. I have never known lands thus treated that were not grateful for it, and did not pay good interest on the investment. Grass, I am satisfied, is the remunerative crop for most New England farms; still on corn and potatoe grounds, I have found muck to operate with beneficial effect. With such a resource for manure, what eastern farmer need fear competition from his western neighbors, two days journey, or a thousand miles off? BERKSHIRE.

Potatoes from Seed.

EDS. CULTIVATOR—The following brief of some experiments, with my seedling potatoes last season, is respectfully submitted for the Cultivator.

All the different varieties, though the season was much too dry for good crops, came off in the advance of former years.

I planted as late as the 19th of June, on a patch of new land, just cleared from the stump, about 7 bushels of the very smallest of several varieties of my improved seedlings. They were the remnants from what I had selected and sold at home and abroad for planting. "Too small to offer *for sale as potatoes.*" A large portion in size less than Robin's eggs. The soil was too green and rooty for the plow; it was broken with the grub hoe; a sandy loam, not at all manured; the crop suffered much by the drouth, was hoed once, and lifted, after the frost had killed the foliage when in vigorous growth, and the product was good. A good portion of the crop range in size with large potatoes. The "Buffalo *Pinks*," "*Russels*" and "*Eries*," were finely developed. Others also were good. The surface of the plat was too much interrupted with stumps and roots to allow any just estimate per acre.

I planted a few "*Prussian Seedlings*," the product of seeds from the balls which I obtained direct from Germany. The tubers are of the finest specimens. Shall cultivate these Prussian Seedlings with the expectation of adding to my lists for public inspection another *most beautiful* standard seedling potato.

I sowed my improved seedling potato seed at different dates—1st, March 1st; 2nd, May 1st; 3d, May 19th. The 1st and 2nd sowing was in hot bed, both of which did well, though the crops, on account of the drouth and prevailing sickness, were limited. But the third sowing, the 19th of May, was in open bed like cabbage-seed, and transplanted. Also in drills, in the field, where the plants remained and were cultivated the same as common potatoes. The product, notwithstanding the severity of the drouth, was abundantly satisfactory. The young seedlings were *numerous*, developing new varieties, and several of fine appearance. Many of the tubers were as large as a hen's egg. Mr. Ackerman, a gardener near me, sowed of the same seed the 25th of May in open bed, transplanted in rich garden soil, and the product was equal to 200 bushels per acre. Six of the first sized tubers weighed 22¼ oz. Others are equally successful with the sown seed. Good improved seedling potato-seed is sure to vegetate, produces very hardy plants, and may be used to great advantage by sowing it in open bed or in drills in the field, for the purpose of new varieties and producing seed for the next season. N. S. SMITH. *Buffalo, Feb.*, 1850.

Experiment with Potatoes.

EDS. CULTIVATOR—The following is an experiment which I made last season in planting potatoes. The kind is called by some the "Merino," and by others the "Red Mercer." It is a large long red potato with sunken eyes and a great many of them. It is a good potato for the table at any time after reaching maturity, but it is the best in the spring. It yields well in all soils, but produces the best quality in a sandy loam. The soil on which the experiment was made, was a sandy loam, and had been in clover two years. Planted three feet apart side by side. The following is the product of eighty hills of each:

Kind.	Yield, lbs.	Yield, bush., lbs.	Yield per acre.
1 large,..................	345	5.45	348
1 small,..................	234½	3.54½	236
½ large slit lengthwise,....	287½	4.47½	290
1 large, cut in two,.......	309	5.09	312
1 large, seed end only,....	251	4.11	253
1 large, root end only,....	287½	4.38½	281

The produce of the small ones were small, and of the large ones large. You are at liberty to do as you please with the above. G. T. PEARSALL. *Owego, Jan.* 21, 1850.

Advice Wanted.

EDS. CULTIVATOR—My farm consists of about 220 acres, arable land, divided into seven lots, numbered 1, 2, 3, 4, 5, 6, 7. No. 1 is river bottom, sandy alluvial, medium quality; average yield, 30 to 35 bushels corn, 10 or 11 bushels wheat per acre. Nos. 2 and 3 are identically the same; 4 and 5 are upland, gently undulating, stiff red clay, and dry, quality inferior; average yield per acre, say 20 bushels corn, 8 bushels wheat; clover and all the grasses do pretty well on these five lots; gypsum has a good effect. Nos. 6 and 7 we may regard as one field. The northern half was once a good clay mould; but it has been *skinned*, and we have now the clay without the mould. It lies almost level—quality about equal to 4 and 5. The southern half is totally different from the northern half, and from any other lot yet described; and it is in regard to this particular, that I want information.

This ground lies perfectly level—is, in fact, what we here call second bottom; that is, a bench or flat of land lying from 5 to 10, sometimes 20 feet above the first or sandy alluvial bottom. Clay predominates in this soil, and is sometimes, (that is in different places,) blue, sometimes nearly white, then again yellow, but is mostly a gray. In it there is gravel and sand; the gravel is small at the surface and increases in size as you descend. This is the poorest part of my farm—indeed, in its present condition, it is not worth cultivating; it would not yield more perhaps than 10 bushels corn per acre. It is rather wet, for the crawfish work over two-thirds of it. There is about forty acres of it. Can this land be made valuable? if so, how? I know thorough draining is the first step. What then? Lime costs us 40 cents per bushel, delivered, and we have a bad market for surplus produce. Under these circumstances, I think, I can hardly afford to use lime. Would lime have a good effect on such land, for there is very little vegetable matter for it to act upon? I would give it up to the bushes and brambles, but that would be a bad example—and besides, it is in the centre of my farm—and of course, an eye-sore, that I would willingly get rid of, even at some pecuniary sacrifice. I could, without much expense, turn a small stream upon about one-half of it. Would not that be advisable? If so, should I suffer it to overflow it constantly, or only some few weeks at a time, through the year? Would you drain before overflowing? Would animal manure benefit such land much? or would some other manure (leave out lime,) do better?—In short, what would you do for a soil so uninviting? Give me the *modus operandi*. *Blaze* out a track, and I will try to follow it, no matter how *crooked*.

While speaking of this part of my farm, I will mention that there are several low, marshy strips, passing through it, at the depth of 2½ feet from the surface. These strips continue soft and miry. What materials suit best for draining such a place? I have tried stones; but they sink with the superincumbent weight and choke up. How would you underdrain such land? As to the general improvement of my farm, I have adopted the following rotation of crops:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.
1 yr	Corn,	——	——	Corn	——	——	——
2 yr	Pasture	Corn	——	Oats with Clover	Corn	——	——
3 yr	Wheat	Past're	Corn	Clover	Oats and Clover	Corn	——
4 yr	Corn	Wheat	Past're	Wheat	Clover	Oats and Clover	Corn
5 yr	Pasture	Corn	Wheat	Corn	Wheat	Clover	Oats and Clover

In this way I give more rest to 4, 5, 6 and 7, than 1, 2, 3, for the reason that the three last mentioned are much more productive, and improve as much with one year's rest as the others with two. Necessity compels me to cultivate in corn one of the river lots and one of the upland. Under this necessity, can I adopt a better rotation? If so, point it out. Rapid improvement of the soil is my object, without regard to profit. My means of making manure are abundant—hundreds of acres of woodland, plenty of swamp mud, straw, weeds, corn-stalks, &c., &c., with about 70 head of cattle, same number of swine, 12 or 14 head of horses; and besides have Bommer's method of making manure. Apropos: What is the common opinion with you in regard to that method? Could I profitably use it? Another question. Where thin upland (clay) is to remain in clover but two years to be turned under for wheat, would you recommend any mowing or pasturing the second season? Would it be better to let it alone and turn the whole summer crop under? Recollect, benefit to the soil is more my object than large crops. ED. W. JONES. *Clover Hill, N. C., Jan.* 22, 1850.

Drive thy business or it will drive thee.

White Sugar Manufactory.

EDS. CULTIVATOR—During the past season we have, by availing ourselves of suitable machinery and apparatus, been able to make our entire crop of cane into white sugar, direct from the cane juice; and with about the same facility as in the ordinary way of boiling in open kettles.

The mode we have adopted is similar to that adopted in all refineries—by filtrations and concentration in vacuum—principally by the Deronne system. The machinery was constructed by the Novelty Works, New-York.

We have made some in loaf, which has been pronounced very fine; and feel assured, when the mode becomes generally adopted, that white sugar may be obtained twenty-five per cent less than at present, saving thereby to the consumers, a vast amount, and to the producers and merchants, the heavy drainage of brown sugars—the drainage being an entire loss.

Mr. Melsen's process has been tried here, but anticipations have not been realized. S. TILLOTSON. *New River, La., Jan.* 3, 1850.

Preparing and Sowing Clover or Timothy Seed.

EDS. CULTIVATOR—Take one bushel of clover seed, put it in a pile on your barn floor. Make 3 gallons of pickle, not quite strong enough to bear an egg, put it on the seed, mix it thoroughly, in the evening with a paddle or shovel, and then spread it on the floor, 4 inches thick. The next morning, wet it again as above; then mix about one peck of plaster, by sprinkling 2 quarts upon it at a time, well stirred; spread out your heap again, and so on, till you have it so well dried with plaster that the seed will not stick together. Sow while the seed is damp. One bushel thus prepared will make over one and a half bushels.

The advantage of sowing in this way is, you save at least one-third your seed, and are almost certain of its growing. In the spring and summer of 1849, I sowed in four different pieces, 42 acres in the above way, 6 quarts to the acre, not one acre of which "missed." I sowed nine acres in the "old way," viz. the clean dry seed; 6 qts. to the acre. On the whole field there *may be* 2 acres of clover, not more. I also sowed 9 bushels of plaster on this field; not any on the other.

An experienced gentleman told me of this way, and that he had seldom if ever missed having plenty of clover, and thick enough too. B. M. ELLIS. *Muncy, Pa., Jan.* 23, 1850.

Timber for Plank Roads.

We notice by some papers that serious apprehension is felt that the vast amount of timber used for plank road, is likely to render all kinds of wood and lumber scarce throughout the county. Let us give one moment's thought to this objection.

Suppose that every township in the country has its plank road—a result which, independently of the wood consumed, would add immensely to the value of land and prosperity of the whole country. This would be a road for say every five miles, or one mile of road for every five square miles. A good single track, (and few roads need more,) requires about 160,000 feet of lumber; a thousand feet are about equal to a cord of wood in weight; consequently a quantity equal to 160 cords is needed for every five square miles. The average durability, including the stringers, is about 8 years; or equal to the consumption of 20,000 feet of lumber, or 20 cords of wood per year for the five square miles, or 4 cords for each square mile.

Now, in the thickly settled farming districts, not counting cities and villages, there are about 80 persons per square mile, or ten families averaging 8 persons each. These families consume on an average at least 20 cords of fuel each yearly, (many consume 40 or 50,) or 200 cords per square mile. This is just 50 times as much as is required for the yearly use of the plank road.

Again, nine-tenths of the fences in most parts of New-York are made of common stakes and rails; 48 of these are equal to a cord of wood, and will build 3 rods of substantial fence. It requires to fence one square mile into ten-acre lots, sixteen miles of fence. Throwing off six-tenths for waste and woodland, &c., and leaving ten miles, there are required for these ten miles no less than one thousand cords of wood in rails to fence each square mile; and if these last 12 years on an average, there are required yearly more than 80 cords for each square mile, or 20 times as much as for the plank road.

A village of 1500 persons, consumes in each year about enough wood to build ten miles of plank road; and the yearly consumption of wood in such a place as Rochester, Syracuse, or Utica, would run a half-dozen roads in different directions into the country, each from ten to thirty miles long, estimating merely the quantity of wood required.

Water-tight Cellars.

I notice in the last number of *The Cultivator*, the description of a mode of excluding water from cellars, by ramming in a space with clay between the wall and the earth, eight to twelve inches thick. Allow me to suggest another and cheaper mode. Plaster the whole inside, bottom and all, with two or three successive layers of water lime cement, making the cellar as tight as a water lime cistern. The water cannot get in at sides or bottom; and if two or three inches thick, and mixed with pebbles at the bottom; no rat, however ingenious, can pass it, after well hardened; and it makes a beautiful floor for the cellar. X.

Preparation for Spring Wheat.

Mr. Q. C. Rich, Chairman of the Committee on Field Crops for the Addison County (Vt.) Agricultural Society, makes the following remarks in reference to the cultivation of wheat:

"Wheat and Corn, we think, will be admitted to be the two most important grains grown in this county. Winter and Spring wheat has paid a fair profit for the outlay the past season, particularly winter, which has not been better in twenty years. The best preparation is a clover lay, but in case you have none, we would recommend plowing your land early in June, and sowing from one to two and a half bushels of Buckwheat per acre, to be turned under the last of August or first of September. The rapid decomposition of the vegetable matter warms the soil and makes it more friable—causes the wheat to vegetate, grow, and get a stronger growth—the roots to strike deeper than they would had you applied manure, or summer fallowed, as was the usual practice. The Black Sea (a spring variety,) is the only kind sown to any extent at this time. When it was first introduced into the county three-fourths to one bushel was considered sufficient to seed an acre; but now many are using two bushels; one and a half is believed to be preferable."

Durability of Underdrains.

A correspondent of the *New England Farmer* says that in walking over the grounds of the Duke of Portland, in the west of Scotland, he was led to examine the condition of a *brush drain*, constructed 32 years previously. The wood of the brush was found to be in an undecayed condition, and the drain acted as efficiently as newly constructly tile drains around it. This appears the more probable, when it is remembered that the brush is almost perfectly excluded from the external air, and most so on clayey ground. The string-pieces of plank roads, covered only by the plank, from the air above, are found to last 15 or 20 years. There is doubtless a great difference in different kinds of wood used as brush drain. Red cedar branches, buried in drains in clayey ground, would probably last beyond a lifetime. The writer has seen wood dug up in excavating deep wells 30 or 40 feet deep, which appeared to be cedar, perfectly sound, and where it must have been deposited at the time of the great deluge.

The correspondent above referred to, says that "it is well known that so far as permanence is concerned, tiles do not, on an average, last more than 20 years." The best ones *now* constructed, will however, doubtless last much longer, when not in decidedly unfavorable localities.

Guano in Agriculture.—The opinion is gaining ground that guano is most advantageously applied to wheat—the coarser nature of yard manure being more appropriate for corn. It is either plowed in, or perhaps better applied in autumn; 200 or 300 lbs. being usually enough for an acre. According to T. S. Pleasants, in the *Am. Farmer*, the wheat and corn crops of the members of the Farmers' Club of Sandy Spring, Maryland, where it has been much used for the past five years, have averaged as follows:

1844.—	Wheat	10	bushels	per acre	
	Corn	24	"	"	
1845.—	Wheat	14	"	"	
	Corn	20	"	"	(season unfav.)
1846.—	Wheat	11½	"	"	(season unfav.)
	Corn	21	"	"	
1847.—	Wheat	15	"	"	
	Corn	23	"	"	
1848.—	Wheat	18	"	"	
	Corn	31	"	"	

Insurance of Live Stock.—Col. J. M. Sherwood, of Auburn, suggests, through the *Evening Journal*, the formation of a company for the insurance of live-stock. He observes—"There is in this and the adjoining States, a large number of valuable breeding animals, horses, cattle and sheep. These are all liable to injury and disease, which occasions serious loss to the owners. The liability to losses frequently prevents persons from importing and introducing valuable breeding stock into the country. In order to obviate in some measure these objections, I propose that there be formed a New-York State Live Stock Mutual (or Stock) Insurance Company, and that persons willing to join in such a company give notice thereof to the Secretary of the New York State Agricultural Society before the first of March next. When, if a sufficient number of persons (or a sufficient amount of capital, if a stock company,) are found willing to join in such company, measures may be taken to organize one."

Such companies have long existed in England, where their utility has been very great, and we think they would prove equally beneficial in this country.

Answers to Correspondents.

To prevent seed corn from being pulled up by birds or squirrels.—A. L., Apalachin, N. Y. Various preparations have been recommended for this purpose; such as soaking the seed in copperas-water, coating it with flour-sulphur, coating it with tar, &c. So far as we are acquainted, we believe the tar is most effectual; but its direct application to the grain, is liable to injure it; and to obviate this, some have adopted the practice of first coating it with plaster (gypsum,) and then coating it with tar. This, it is said, does not obstruct the germination of the corn; and the birds or squirrels will not pull it after they have found what it is. It is necessary that the corn should be well soaked in water before it is coated, otherwise the tar will not allow the penetration of sufficient moisture to produce germination.

Coal Tar.—F. E. S., Braceville, Ohio. Coal tar is usually applied with a common white-wash brush. It is used as a paint for fences and outbuildings, and is considered a cheap mode of preserving them from decay. It also answers a good purpose for protecting iron against oxydation or rust.

Destruction of Rats.—J. T. S., Bearmont, Pa. Arsenic is a deadly poison to rats, but can only be used where other animals cannot come to it. Compositions of phosphorus with ground glass, have been recommended. Cork cut in thin slices, and fried in lard, it is said will kill them. Dr. J. V. C. Smith of Boston, states that ground plaster, mixed with dry meal will be eaten by rats, and that it will *set* in the stomach and kill them. Professional rat-catchers use substances to decoy the vermin into traps, or to places where they can be killed. The following is a composition used for this purpose :

Powdered assafœtida, ¼ grain.
Essential oil rhodium, 3 drachms.
" lavender, 1 scruple.
Oil of annisseed, 1 drachm.

See *Cultivator* for 1846, p. 371, and 1848, p. 225.

Moles.—S. M. T., Glen Cove, N. Y. There are various traps for catching moles. A cut of a good one was given in *The Cultivator*, vol. 10, (old series,) p. 70. They are also destroyed by poison. Pills of bread, containing arsenic are laid in their tracks; small shreds of meat on which arsenic has been sprinkled, are used for the same purpose. It is said that the castor-oil bean, laid in their tracks will drive them away.

Harvesting Machines.—E. S., Forty Fort, Pa. The most popular harvesting machines have heretofore been Hussey's and McCormick's. The address of the former is O. Hussey, Baltimore, Md.; of the latter C. H. McCormick & Co., Chicago. H. L. Emery, Albany, is agent for McC. & Co., and will have the machines for sale next season. Mr. J. R. Burrall, of Geneva, N. Y., manufactures a harvesting machine, which, we understand, is favorably spoken of by those who have used it.

Maple Sugar.—A. O. B., Claridon, O. In Vermont, tin is considered preferable to iron for boiling syrup. You will find the directions you ask for for in our vol. for 1849, pp. 123, 262, and in that for 1847, pp. 24, 25.

Books.—J. R., Utica. There are only three vols. of the "Memoirs of the Board of Agriculture." Of the "Memoirs of the Philadelphia Ag. Society," we have five volumes, which we believe comprise the entire series. We presume it will be a difficult matter to procure any of these vols.

Bones.—J. H. M., Columbia, Pa. If you have no bone mills in your vicinity, we do not know how you will be able to work them to advantage. The labor of crushing them by hand is considerable, and the bones may not be worth the cost. To dissolve bones in sulphuric acid, they are usually first broken in a mill, and then covered or saturated with the acid. Prof. Norton says, "Twelve lbs. of acid per bushel seems a good quantity to apply; but it must in all cases be previously diluted with once or twice its bulk of water. An excellent way of applying it, is to place the bones in a conical heap on a bed of ashes, and slowly pour on the diluted acid. They will absorb nearly the whole; the outside bones should then be turned inside, and the whole will in a short time become soft and fit to mix with ashes for drilling or sowing."

Old tan bark.—If wood ashes can be cheaply obtained, the best way to convert tan into manure, is to mix it, in layers—say, a bushel of ashes, unleached, to ten of tan—the heap to be made up in spring, worked over in midsummer and used the next season.

Black-Sea Wheat.—J. W., Bucks county, Pa. Mr. Emery, of the Albany Agricultural Warehouse, advertises this kind of grain.

Hand-drill, or Seed-sower.—C. T., Kingsville, O. Emery's seed-planter will plant all kinds of seeds, from turnep seed to Indian corn. It is the kind generally used here for carrots. The price is $14.

Peas and Beans.—C. W. T., Trevose, Pa. Peas are much cultivated in the Canadas, in the northern portion of New-York, and in Vermont, New-Hampshire, Maine, &c. They grow better in those northern regions than farther south, and are also comparatively free from bugs. Indian corn is less grown at the north than in the middle and southern states, and peas are used to some extent as a substitute for that grain. They are considered quite as valuable per bushel, for feeding sheep, hogs, or horses, as corn. They yield from twenty to forty bushels per acre. The English field bean is not much cultivated in this country, and we are unable to refer to any particular trials which have been made with it here. The beans usually cultivated here, are more valuable to sell as human food, than for feeding stock—though for such animals as will eat them, either whole or ground, they are considered equal to corn. A good yield is twenty-five bushels per acre.

Officers of Agricultural Societies for 1850.—**Bennington county, Vt.**—John S. Pettibone, President; Aaron Hubbell, Joseph Parker, Vice Presidents; Harmon Canfield, Secretary; Zadock Canfield, Treasurer.

Oswego County, N. Y.—Hamilton Murry, President; C. A. Tanner, Peter Devendorf, Vice Presidents; James H. Wright, Secretary; J. S. Chandler, Corresponding Secretary; Samuel Allen, Andrew Place, A. W. Severence, Executive Committee.

Wayne County, N. Y.—Joseph Watson, President; S. E. Hudson, G. Center, N. Warner, J. Jenner, J. Borrodale, E. Flint, A. Hale, Vice Presidents; D. Kenyon, Recording Secretary; R. G. Pardee, Palmyra, Cor. Secretary; J. D. Ford, Treasurer; A. G. Parry, W. P. Nottingham, B. H. Streeter, E. N. Thomas, H. G. Dickerson, Wm. Rogers, V. G. Barny, Executive Committee.

Notices of Publications.

The Country Gentleman—*a Cottage, Villa, Farm and Garden Newspaper*.—This is the title of a new weekly newspaper commenced in London, the first of the present year, under the auspices of George Glenny, F. H. S., a well known and popular writer on gardening matters, by whom the Horticultural Department is conducted. We are much pleased with the first No., the only one which has as yet come to hand; and cheerfully commend it to such of our readers, whether of foreign or native birth, as wish to receive regularly a weekly newspaper from London, in which they will find, beside a journal of the news of the week, a record of the progress of the arts of culture in the garden, the orchard, and the conservatory, and on the farm. Price 6d sterling per No., equivalent to about $6.50 per year, to which is to be added, to the American subscriber, the ocean postage, which would make the cost here $8 to $9 a year. (See advertisement.)

Proceedings of the Seneca County Agricultural Society.—We are indebted to John Delafield, Esq., for a copy of these proceedings. They comprise about 100 pages in quarto form, handsomely printed and bound, and embrace a general record of the doings of the Society for 1849.—Statistical tables are given of the agricultural products of each town in the county for the year 1848. There are, also, several valuable addresses and essays, from some of which we have already given extracts in our columns.

New Work on Diseases of Animals.—We understand that Dr. G. H. Dadd, of Boston, proposes to publish, within a few months, a work to be entitled—"Outlines of Anatomy and Physiology; also, a General History of the Rise and Progress of the Veterinary Science in England, with practical observations on Feeding, Watering, Grooming, Shoeing, &c., &c.; written with a view of teaching every man how to prevent disease in animals; with plates; containing also, a Compendious Dictionary of the Veterinary Art."

American Poultry Yard.—A work consisting of upwards of 300 pages relating to the origin, history, and description of domestic poultry of all kinds, with directions for breeding, &c., with numerous illustrations; by D. J. Browne; with an appendix on the comparative merits of different breeds of fowls, with much statistical information on the subject, by Samuel Allen. The work is from the press of C. M. Saxton, New-York. Price one dollar.

American Fowl-Breeder.—This is a manual lately published at Boston, comprising information in regard to breeding and managing poultry, their diseases, &c.—with engravings—by an "Association of Practical Breeders." It is offered at 25 cents per copy, and will be found useful to those who keep poultry.

The Family Visitor.—We have received the first number of a paper with this title, published at Cleveland, Ohio, by Dr. J. P. Kirtland, S. St. John, and O. H. Knapp, editors and proprietors.—The design of the publication is to furnish such information as shall tend to interest and improve the mind—or as expressed by the publishers—"a family paper, designed to instruct, enlighten, and interest the family circle." Articles will be furnished on various branches of natural science, embracing zoology, geology, chemistry, &c., accompanied by illustrations. Agriculture and horticulture will also receive attention, and information will be furnished on all subjects touching the philanthropic, political and general improvements of the day.—The "Visitor" is issued weekly, at $1.50 per year in advance. The paper is handsomely got up, in the quarto form, and from the high standing of the editors, we presume it will deserve and receive a liberal patronage.

Moore's Rural New-Yorker.—This is the title of a paper, dating from the commencement of the year, published at Rochester, N. Y., by D. D. T. Moore, late publisher and associate editor of the *Genesee Farmer*. The *New-Yorker* is to be devoted to agriculture, horticulture, mechanic arts, science, literature, education, rural and domestic economy, reports of the crops and markets, and general intelligence. Conducted by D. D. T. Moore; L. B. Langworthy, associate editor; Elon Comstock, T. C. Peters, corresponding editors; L. Wetherell, editor of the educational department. The paper makes an excellent appearance in all respects, and we have no doubt will well fulfil its design.—Each number comprises eight pages, large quarto. It is published weekly, at two dollars a year.

American Journal of Science and Arts.—The January number of this excellent work contains valuable articles on various scientific subjects, from the pens of Profs. Loomis, Dewey, J. D. Dana, Dr. Wyman, Dr. Darlington, S. S. Haldeman, John A. Porter, T. S. Hunt, and others. The work is published at New Haven, Ct., and is conducted by Messrs. Silliman & Dana. Published every second month—$5 per year.

Genesee Farmer.—Mr. D. D. T. Moore has relinquished his interest in this paper to Dr. Daniel Lee, who has for several years been associated in the editorial department of the paper. Dr. L. continues its publication, and it is edited by him in connection with James Vick, Jr. We have received the January number, which indicates that the good character of the work will be preserved.

Patent Portable Railroad Horse Power, and Overshot Treshing Machine and Separator.—The *Prairie Farmer* states that this machine has been extensively introduced into Illinois, Iowa and Wisconsin, during the past season, and that the result has been a general conviction of its superiority over any sweep machine known there. The editor says—"We have it from several persons using them, that with one of these implements, two horses and four or five men have done as much work, day by day, as threshers with eight horses and ten men operating along side of them. One man informs us, that he threshed one hundred and sixty bushels in a day, of wheat yielding only eight bushels per acre. This we call large threshing. Another informs us that his wheat yielded from seven to nine bushels per acre, with straw enough to produce in common seasons twenty or twenty-five bushels. With the same span of horses working every day, and his machine elevated sixteen inches, his ordinary threshing was eighty bushels per day. Others in the same circumstances, by hard driving, or changing horses, have threshed from one hundred to one hundred and fifty, and in one case, as we have said, one hundred and sixty."

For further particulars, see p. 95, current vol.

Acre in Yards.—An acre contains 4840 square yards, or 70 yards in length and 69 1-7 in breadth—or 198 feet by 220.

Notes for the Month.

Communications have been received since our last, from Prof. J. P. Norton, F. Holbrook, G. T. Pearsall, H., Daniel C. Douglass, J. C. H., Darwin E. Gardner, S. R. G., N. S. Smith, W. L. Eaton, Harry Betts, A New-York Farmer in Virginia, J. R., Otis Dillingham, E. Croasdale, C. G. J., W., J. S. Pettibone, A Farmer, Berkshire, Eliza P. Benedict, A. B., A Subscriber.

Books, Pamphlets, &c., have been received as follows:

Transactions of the Essex (Mass.) Ag. Society, for 1849, from J. W. Proctor, Esq., President of the Society, and from Gen. Wm. Sutton.

Transactions of the Worcester (Mass.) Ag. Society for 1849, from John W. Lincoln, Esq.

Annual Message of the Governor of Ohio, from Hon. J. S. Copeland.

Proceedings of the North American Pomological Convention, held at Syracuse, 14th Sept., 1849.

The Application of Science to Farming, an address before the Hampden Ag. Society, Oct. 4, 1849, by W. C. Goldthwait.

An Address before the Hampshire, Franklin and Hampden Ag. Society, Oct. 1849, by Prof. John P. Norton.

Transactions of the Norfolk, (Mass.) Ag. Society, for 1849, the first year of its existence—a handsome octavo of 150 pages—from Hon. M. P. Wilder, President of the Society.

The North British Agriculturist, several nos. from Mr. J. Johnston, Geneva.

Sixteenth Annual Report of the Massachusetts Lunatic Hospital, from the Superintendent, Dr. Geo. Chandler.

☞ Will "H. C. W., Putnam Valley," please favor us with his address ?

Apples of 1846.—Mr. James Stewart, of Hobart, Delaware county, N. Y., has sent us four apples, two of which grew in 1846, one in 1848, and one in 1849. They are all the product of one tree, a seedling, on the farm of Mr. S. They are remarkable from their property of long keeping; but we do not discover that they have any other qualities that would particularly recommend them.

Fat Sheep.—Mr. B. McNeil, of Schoharie, lately brought to this city, on his way to Boston, forty-two fat sheep. They were purchased at $15 a head of George Goodyear, of Schoharie, who fattened them. They are mostly of the improved Cotswold breed, and that breed crossed with the Bakewell or Leicester. Several of them weighed, alive, 300 lbs., and upwards each. Twenty-five of the lot were raised by Mr. George Clark, of Springfield, Otsego county, and the others were raised in the same neighborhood. They were the finest lot of fat sheep we ever saw, of so great a number.

Grafting GrapeVines.—Mr. Curtis, member of Assembly from Onondaga county, stated at one of the agricultural meetings in Albany, that he had been very successful in grafting the Isabella on the common wild grape. He takes about fifteen to eighteen inches of the root of the wild vine, and inserts in it a scion of the kind he wishes to propagate. It is done in the ordinary mode of cleft or "split" grafting. The vine is planted so that the connexion of the stock and scion will be just below the surface of the ground. The operation is performed in the spring before the vines come into leaf. Mr. C. stated that he had vines so grafted, which bore considerably the first year, and sometimes they had made a growth of fourteen feet the first season.

Good Corn crop.—J. W. Colburn, of Springfield, Vt., writes—"I have raised the past season, on four acres of ground, (Connecticut river alluvial.) within a few quarts of 416 bushels. It is of the variety known as the Brown corn; eight-rowed, small cob, deep flat grain, having a chocolate colored tinge. In a rich soil, well prepared, and with clean and thorough cultivation, it will yield more than any kind I have ever tried; but on light and poor soils, and with ordinary culture, it will do nothing."

Cheese Dairies in Washington county, N. Y.—A correspondent in Middle Granville, informs us that from 150 to 200 tons of cheese were made in that town the past season. We publish this month, an account of the products and management of one of these dairies, and are promised farther particulars hereafter.

Sample of Wheat.—We have received from Mr. S. B. Parsons, of Colebrook, N. H., a sample of wheat, called "the Turkey wheat." Its appearance is similar to that of the "Black Sea" wheat, when that variety first came into the country. The name also, implies that they are from the same region. But as the sample sent us is understood to be the product of a later importation, it may possess some valuable qualities which the other has lost in acclimation. Mr. P. informs us that it has succeeded remarkably well, having ripened perfectly free from rust, in neighborhoods where other wheat totally failed.

Samples of Wool from Kentucky.—We have received from Mr. Washington Miller, of Winchester, Clarke Co., Ky., some handsome samples of Merino wool. We are informed that they are in part from sheep purchased by him, about fifteen years since, of Lewis Sanders, Esq., of Grass Hills, Ky., and in part from sheep lately purchased from the eastern part of Ohio. The samples are all good, and those from Mr. M.'s own flock, show that there is no obstacle to the production of fine wool in Kentucky.

Lawrence Scientific School.—By a circular, we learn that the course of instruction in this department of Harvard University commencing March 1, 1850, is to comprise the following lectures: 1, Engineering, by Prof. Eustis; 2, Chemistry, by Prof. Horsford; 3, Zoology and Geology, by Prof. Agassiz; 4, Anatomy and Physiology; 5, Botany and Vegetable Physiology, by Prof. Gray; 6, Experimental Philosophy, by Prof. Lovering; 7, Mathematics, by Prof. Pierce; 8, Astronomy, by Messrs. W. C. and G. P. Bond. For particulars in regard to this valuable school, inquire of Prof. E. N. Horsford, Dean of the Faculty, Cambridge, Massachusetts.

Agricultural enterprise in Canada.—A Canadian paper notices the improvements in agriculture made by Chas. P. Treadwell, Sheriff of the Ottawa District. It is stated that he has upwards of two hundred acres of land ready for spring wheat, and that he cleared upwards of a hundred acres of forest last season. His extensive operations in draining are also spoken of; he having made upwards of five miles of ditches with the spade, besides other ditches made by a plow designed for the purpose, drawn by four horses. He has also introduced the subsoil plow.

The last Smithfield Show of Fat Cattle.—This exhibition was held at London from the 11th to the 14th of December last. In the six classes of oxen and steers, there were fourteen prizes; of which the Herefords took four, viz: one first prize, including the silver medal to the breeder, and the gold medal for the "best ox or steer in the show-yard"—one second, and two third prizes; the Short-Horns took four—two first and two second prizes; the Devons took five—two first, two second prizes, and one third prize; the West Highlanders one. In the three classes for fat cows and heifers, there were seven prizes; of which the Short-Horns took six, including all the first prizes, and the gold and silver medals for cows and heifers; the Devons one—a second prize.

COCHIN CHINA FOWLS.—Within a few years, much has been said in regard to fowls under this name, specimens of which, having been presented to her Majesty, Queen Victoria, were kept at the royal residence, Windsor Castle. Mr. GEORGE P. BURNHAM, editor of the *American Union*, Boston, states that he has received from Mr. J. J. NOLAN, of Dublin, some of this stock. From descriptions we have seen of these fowls for the last six years, we have never supposed that they differed essentially from other large Asiatic fowls, common in this country, under other names. This impression agrees with Mr. Burnham's description of his imported fowls, which, though not "exactly," he says, like some we have in this country, are still "very similar, as regards the general characteristics." Again, he says, "they bear a resemblance to the best Shanghaes we have here, with the exception of the tail," that of the Cochin Chinas being longest. We should like to *know at what* "English Agricultural Fair, this [Mr. B.'s] stock took the premium, at the side of her Majesty Queen Victoria's *original* Cochin Chinas?"

☞ Attention is invited to the advertisement of Mr. HOWLAND, in this number. We have not seen the horse he offers for sale, but those who have represent him to be a valuable animal.

CORRECTION.—In our report of the premiums awarded by the N. Y. State Agricultural Society on grain crops, in our last, Mr. Crispell's crop of oats was stated 80 bushels per acre; but it should have been 85 bus. 20 qts. per acre.

GLASS WATER PIPE.—A specimen of this pipe has been left at our office by W. T. DE GOLYER.—We learn that over fifty rods of the pipe were laid for Union College, Schenectady, in 1848, which is still in use, and has been found free from every defect. It is not in the least corroded, and affords the water as pure as at the fountain. Further particulars in regard to the article may be learned by addressing D. O. KETCHUM, Agent Albany Glass-Works, Albany.

MILK-HOUSE FOR MAKING BUTTER.—We have received several inquiries for plans of houses or apartments for setting milk for making butter, and shall be greatly obliged if our friends will give us their views in regard to the subject. We should like to learn from those who have had experience in making butter both with spring houses and without, what they deem the best plan. What do the celebrated butter-makers of Pennsylvania say?

LANDS IN WISCONSIN.—A subscriber, who with others, is desirous of emigrating to Wisconsin, wishes to obtain information as to the best section of the state for farming, and the usual course of farming there, commencing with the prairie land in its natural state. Will some of our Wisconsin friends give us an article on this subject?

Garden Tools and Pruning Implements.

A GREAT variety of these, of American and Foreign manufacture, constantly on hand. A. B. ALLEN & CO.,
March 1, 1850. 189 & 191 Water St., New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Prices of Agricultural Products.

New-York, Feb. 18, 1850.

FLOUR—Genesee, per bbl., $5.50*a*$5.62—Michigan, $5.12½*a*$5.37.

GRAIN—Wheat, prime Genesee per bush., $1.28—Ohio, $1.10*a*$1.12½. Corn, fine white Southern, 62½c.—Southern and Jersey yellow, 60c. Rye, 62½c. Barley, (prime) 70c.—Oats, 42*a*45c.

BUTTER—best, per lb., 18*a*20c.—Western dairy, 12*a*18c.

CHEESE—per lb., 6*a*8c.

BEEF—Mess, per bbl., $10—Prime, $6.50.

PORK—Mess, (new) per bbl., $10.50*a*$10.62½—Prime, $9.

LARD—per lb., (tierces,) 6½c.—(kegs, prime,) 7c.

HAMS—per lb., Smoked, 8*a*9c.

HOPS—first sort, per lb., 14*a*16c.

COTTON—Upland and Florida, per lb., 12*a*14c.—New Orleans and Alabama, 12*a*14½c.

WOOL—(Boston Prices.)

Prime or Saxon fleeces, per lb., ...	40*a*45c.
American full blood Merino, ...	36*a*40
do half do	33*a*35
do one-fourth do, and common, ..	26*a*27

BRIGHTON CATTLE MARKET.

Thursday, Feb. 14.

At market, 850 Cattle. 100 unsold. Prices have declined still further. Less than last week, by 12½*a*25 cents. A very few at $6.25, by *agreement*. Discount upon the weight alive 35 per cent., which would probably reduce the price to $6. We quote $6 for a small portion of the whole number. Good, from $5*a*$5.75. Fair $4.50*a*$5. Inferior, $3.50*a*$4. Working cattle low and dull. Cows and Calves plenty, and not much demand. All sorts of store cattle dull.

SHEEP, 2050 at market. 1200 Stall fed sheep, prices, $3.00, $3.25, $3.50, $4.00, $4.50, $5.00, $6.00, $6.50. 850 Common sheep, $2.00, $2.25, $2,50, $2.75. 400 remain unsold.

SWINE. 800 at Market. But little activity—many unsold. Prices lower than last week. A few sales at 3½ *a* 4½. At retail, 4½*a*5½.—*Plowman*.

American Field and Garden Seeds.

A LARGE and varied assortment, fresh and warranted.

The above seeds are grown expressly *for us*, and we have every reason to believe them genuine, and of the best and most improved kinds in market. For sale at the Agricultural Warehouse of

A. B. ALLEN & CO.,
March 1, 1850. 189 & 191 Water Street, New-York.

Bird Seeds.

CANARY, Hemp and Millet Seed, for sale at the Agricultural Warehouse of A. B. ALLEN & CO.,
189 & 191 Water St., New-York.

Fertilizers.

PERUVIAN and Patagonian Guano, Bonedust, Plaster of Paris, Poudrette, and Combined Manure, a new and excellent article. Enquire at the Agricultural Warehouse of

A. B. ALLEN & CO.,
March 1, 1850. 189 & 191 Water St., New-York.

Choice Seedling Potatoes.

BUFFALO *Seedling Pink eye*. Rather long, marble white, eyes bright pink. Productive, healthy and excellent for the table.

"*Erie Seedling.*" Long, intershaded with pink, purple and green; productive, hardy, and fine for the table.

"*Seedling Russet.*" Round, smooth, color cinnamon; hardy, early, productive, and agreeably flavored, and fine for the table.

My "*Early Junes*" are large, round, smooth, light orange white; on the whole, the best early potato for early marketing I have yet found.

Also, superior renovated *Seedling Potato Seed*, gathered from the most select varieties, combined with choice specimens late from Europe and South America.

Carefully packed and delivered at the depot, $2 per bushel, $4 per barrel. Seeds per packet, sufficient for 10 bushels seedlings, transmitted by mail at double postage, $1 per packet. N. S. SMITH.

Buffalo, February, 1850.

Poudrette.

THE LODI MANUFACTURING CO., offer their new and improved Poudrette, for sale at their usual rates:—1 bbl. $2—3 bbls. $5, and $1.50 per bbl. for any quantity over 7 bbls., delivered free of expense on board of vessel in New York. At the Factory, where vessels drawing 8 feet water can come, it will be sold at 25 cents per bushel.

The expense per acre in manuring corn with Poudrette, will amount to about $4, calculating 25 cents per bbl. freight, and all the necessary labor included. On land previously manured, or on good sward land, one gill to the hill is sufficient—on poor ground, a good crop can be raised by one gill at planting, and one at the last hoeing. The cost of the labor alone in manuring corn in the hill with barn yard manure, will amount to more than the first cost of the Poudrette, with freight and all charges added; and the effects of Poudrette are quicker, more vigorous, and the corn reaches maturity earlier. A fair trial, *however small*, is respectfully solicited.

A pamphlet containing instructions for use, certificates from some of the first Agriculturists in the United States, and much valuable information will be sent *gratis*, to any one applying (*post paid* if by letter,) to "THE LODI MANUFACTURING COMPANY, 66 Dey street, New-York." Feb. 1—4ms.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO., being about to clear off the entire stock of one of their nurseries, adjacent to the residence of Mr. A J. Downing, they would call especial attention of Nurserymen, or persons about to commence the business, to the stock of trees thereon. They consist principally of Pears, including all the leading and standard varieties, from 2 to 4 feet high. Also, a lot of Plum and Cherry Trees, and some Ornamental Trees; many of which are good saleable trees. All of which will be sold at such reduced rates, as to make it cheap stock for young nurserymen to plant out.

March 1—2t.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Ellwanger & Barry

WISH to say that the only travelling agents authorised to do business in their name, are ROBERT BLAIR, HIRAM BECKER and HENRY COLLINS. They feel compelled to make this announcement, from the fact that other persons in various parts of the country, are representing themselves as their agents.

Mount Hope Garden and Nurseries,
Rochester, *N. Y.*, *March*, 1850.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

Agricultural Warehouse,

193 *Front Street*, *New-York*.

THE subscriber, manufacturer and dealer in *Agricultural Implements*, offers for sale one of the largest assortments to be found in the United States. Among which are the celebrated *Premium Plows*, which were awarded the highest premium of the *New-York State Fair* in 1847, and of the *American Institute* in 1846, 1848, and 1849. Also, the *Centre Draught*, *Eagle*, and all other *Plows* mostly in use. *Corn Shellers*, *Straw Cutters*, *Fanning Mills*, *Portable Grist Mills*, *Horse Powers*, *Threshing Machines*, *Seed Sowers*, *Wheelbarrows*, *&c.* All of which will be warranted to be of the best quality and sold at the lowest rates.

JOHN MOORE,
March 1—3t. 193 Front Street.

A Rare Chance

THE subscriber offers for sale, or in exchange for serviceable horses or mares, his splendid bay Colt, of the "Surprise" stock. His interest in the Norman horse, makes it desirable to be free from this charge. The stallion offered, is nearly five years old, and from his size and muscular developments, promises finely. Some superior foals of his get, can be shown. Any communication may be addressed to

ROBERT B. HOWLAND,
March 1—2t. Union Springs, Cayuga Co., N. Y.

Farm for Sale,

CONTAINING 200 acres of excellent land, situated in the town of Ballston, county of Saratoga, 2½ miles south of Ballston Springs, and near the residence of E. C. DELAVAN, Esq., and Col. SAM. YOUNG. The dwelling is large and convenient, and in good repair; in addition to which there are two tenant houses, and the necessary barns and outbuildings. This property, from its proximity to Ballston and Saratoga Springs, together with its healthy and pleasant location, offers a good opportunity to agriculturists or gentlemen wishing to retire from business.

Apply to C. SCHUYLER, Esq., on the premises, or to W. W. FROTHINGHAM, Esq. No. 513 Broadway, Albany, N. Y.

March 1—1t.

Isabella Grape Vines,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over twelve years has conferred on the Vineyards at Croton Point, are offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the grape with entire success, (provided their locality is not too far north.) All communications, post paid, addressed to R. T. UNDERHILL, M. D., No. 310 Broadway, New-York, will receive prompt attention.

He feels quite confident that he has so far meliorated the character and habits of the grape vines in his vineyards and nurseries by improved cultivation, pruning, &c., that they will generally ripen well, and produce good fruit when planted in most of the Northern and all the Western, Middle and Southern States.

March 1, 1850—2t.

Syracuse Nurseies,

THORP, SMITH & HANCHETT, PROPRIETORS,

Syracuse, *N. Y.*

WE have now standing in our nurseries, of suitable age and size for transplanting,

More than 100,000 *Fruit Trees,*

Consisting of the various kinds adapted to this climate, from which, persons desiring to establish *Apple*, *Pear or Peach Orchards* for profit, or those who wish merely to furnish their *Gardens* or *Town Lots* with a few select varieties for their own pleasure and enjoyment, can provide themselves with *all in quantity* which may be wanted, and *every thing in kind* which is most worthy of cultivation.

Our stock embraces, of Fruit Trees,

Apple and Cherry, of extra size;
Peach and Plum, of the best early, medium and late varieties;
Standard Pear, of unusual thriftiness and beauty;
Dwarf Pear, among which are the following choice kinds:

Ananas,
Bartlett,
Beurre Diel,
do Piquey,
do Capiaumont,
Colmar d'Aremberg,
Duchess d'Angouleme,
Doyenne White,
do Boussouck,
Easter Beurre,
Glout Morceau,
Louise Bonne d'Jersey,
Madeleine,
Passe Colmar,
Summer Franc Real,
Soldat Laboreur,
Van Mons L. Le Clerc,
Vicar of Winkfield.

Of Ornamental Trees,

1,000 *Horse Chestnuts*, 10 to 12 feet high, very stocky, and well formed;
1,000 *Mountain Ash*, American, 8 to 10 ft. high, with fine heads
500 do. do. European, 6 to 8 ft. high, do do
500 *Ailanthus*, large and regularly shaped.

And of Miscellaneous Productions,

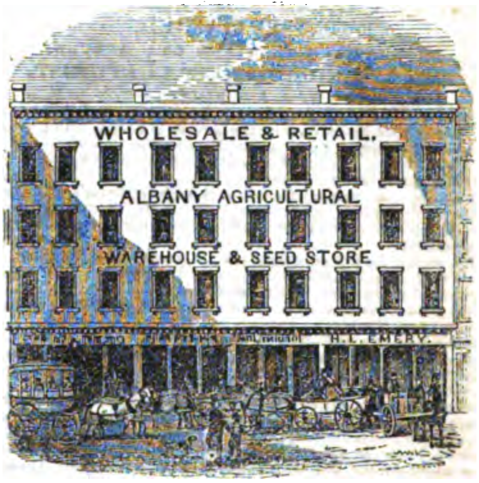
Fir Trees, Silver-leaved Abele, Snowballs, Michigan Roses (double,) Buckthorn, bearing Grape vines, Seedling Horse Chestnuts, 1 and 2 years old, Quince Stocks, Quince Trees, &c., &c., &c. All or any of which will be sold at very reasonable prices,

At Wholesale or Retail.

As no pains have been spared to give our Trees while in the nursery, a vigorous and healthy start, they do not require, on transplanting, that tedious process of wet-nursing which is indispensable to bring up those of a slow, lean, and stunted growth.

☞ *Catalogues* furnished, as usual, to *post-paid* applications.

Syracuse, March 1, 1850—2t.


WHOLESALE & RETAIL.
ALBANY AGRICULTURAL
WAREHOUSE & SEED STORE
H. L. EMERY.

Constantly on hand at the

Albany Agricultural Warehouse & Seed Store,

Nos. 369 & 371 BROADWAY, ALBANY, N. Y.

PLOWS of all descriptions adapted to the soil and modes of cultivation throughout the United States.

Cultivators with Steel and Iron Teeth, for one and two horses, for all crops.

Corn Planters, for hills and drills, and adapted for all kinds and quantities of seed per acre, with a perfection not otherwise attainable.

Emery's Seed Planters, for Carrots, Turneps, Beets, Broom Corn, &c., for hand or horse power. Several hundreds of the above having been sold and approved during the past 3 years, there is no longer any question as to their utility.

Reaping Machines, Hussey's and McCormick's, will be furnished on demand.

A full and complete assortment of every kind of Implement and machine, as also seeds and grains for Field and Garden, required by the husbandman, constantly on hand, at the lowest manufacturer's prices, and warranted to be in all respects what they are represented

March 1—1t. HORACE L. EMERY.

Lynchburg (Va.) Land Agent.

THE undersigned has on hand, for sale, FIFTY PLANTATIONS, lying in this section of the State—say from two to one hundred and fifty miles from Lynchburg. Prices from three to twelve dollars per acre. Mountain land, from thirty-five cents to two dollars. All communications. post-paid, promptly attended to.

Lynchburg, Va., Feb. 1—2t* BENJAMIN WILKES.

For Sale,

TWO Short Horn Bull Calves, 1 year old in April next. Both are descended from the bull Yorkshireman—bred by the late Thomas Bates, Esq. In color, one is red, the other red with a little white.

Letters of inquiry, post paid, attended to. J. M. SHERWOOD.
Auburn, Feb. 1—2t.

Highland Nurseries, Newburgh, N. Y.

(*Late A. J. Downing & Co.*)

THE PROPRIETORS beg leave to inform their patrons, and the public in general, that their stock of

Fruit and Ornamental Trees, Shrubs, Roses, &c.,

For Spring planting, is unusually large and thrifty, and embraces all of the best varieties introduced into notice in this country or Europe; of Apple, Pear, Plum, Cherry, Peach, Nectarine, Apricot, Grapevines, Gooseberry, Currants, Raspberry, Strawberry, &c., &c.

Portugal Quince trees, standards, extra size, each....	$1 00
do. do. quenouille, do.	1 00
Angers, (true,) extra	1 00
Trees of the usual size............................	0 50

Also, *Pears* on Quince, and *Apple* on Paradise stocks, for dwarf trees.

The stock of Ornamental Trees, Shrubs, &c., is very large; and quantities to dealers, or planters on a large scale, will be furnished at greatly reduced rates.

Hedge Plants.

A large stock of Buckthorn, and Osage Orange plants.

Also, a large stock of Rhubarb and Asparagus roots.

The entire stock has been propagated under the personal supervision of A. SAUL, whose long connection with this establishment is some guarantee, from the reputation it has gained, (and the present proprietors are determined to merit,) as to the genuineness and accuracy of the present stock.

Orders respectfully solicited, and will receive prompt attention, which will be carefully packed and shipped to any part of the Union or Europe.

Catalogues furnished gratis to post-paid applicants.

Feb. 1, 1850—3t. A. SAUL & CO.

JUST PUBLISHED,

BY DERBY, MILLER AND CO., AUBURN.

THE AMERICAN FRUIT CULTURIST,

BY J. J. THOMAS,

CONTAINING directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the principal American and Foreign Varieties cultivated in the United States. With 300 accurate illustrations. One volume of over 400 pages, 12 mo. Price $1.

A cheaper, but equally valuable book with Downing's was wanted by the great mass. Just such a work has Mr. Thomas given us. We consider it an invaluable addition to our agricultural libraries. *Wool Grower.*

We predict for it a very rapid sale; it should be in the hands of every fruit grower, and especially every nurseryman. It is a very cheap book for its price.—*Ohio Cultivator.*

It is a most valuable work to all engaged in the culture oi fruit trees.—*Utica Herald.*

It is a book of great value.—*Genesee Farmer.*

Among all the writers on fruits, we do not know of one who is Mr. Thomas' superior, if his equal, in condensing important matter. He gets right at the pith of the thing—he gives you that which you wish to know at once; stripped of all useless talk and twattle. No man has a keener eye for the best ways of doing things. Hence we always look into his writings with the assurance that we shall find something new, or some improvements on the old; and we are seldom disappointed. This book is no exception. It is *full*. There is no vacant space in it. It is like a fresh egg—all good, and packed to the shell full.—*Prairie Farmer.* Jan. 1, 1850—3t.

Horse Powers and Threshing Machines.

E. PLANT, No. 30 Cedar Street, New-York, Agent for the Proprietor, for making and selling the "Warren" Improved Two and Four Horse Powers and Threshers. Also, "Trimbles."

Price of the "Warren" Two Horse Power and Thresher, only	$60
do do Four do do do	$110
Price of the "Trimble" Two Horse Power, (without Thresher,)	$60
do "Warren" do do do do	$50
do do Four do do do	$75

Bands, from $4.50 to $6.

These *latest Improved* Threshers and Powers give universal satisfaction, and are deemed far superior to any others known heretofore for any thing like their cost.

Cash Orders filled promptly.

N. B. *PURCHASING & COMMISSION AGENCY.*

The undersigned also continues the business of the late E. Plant & J. Plant, (E. Plant & Co.,) of Purchasing for Orders, on Credit or for Cash, Dry Goods, Groceries, Hardware, &c., &c., for a commission of 2½ per cent. Produce, such as Sugar, Cotton, Tobacco, Peltries, &c., also received and sold on Commission. E. PLANT,

Dec. 1, 1849—6t. No. 30 Cedar St New-York.

Seeds fo Sping Sowing and Planting.

500 bushels of superior Black Sea Wheat, pure, having been but one year raised in the States.

150 bushels of Clump wheat, a new article of spring wheat, of large berry, and said to be a good yielder, and is much grown in Canada.

150 bushels of Italian Spring Wheat.

100 bushels of Spring Rye.

75 bushels of very superior Broom Corn Seed.

A large supply of choice Clover and Timothy seed, a low prices, at wholesale or retail.

Garden and Field Peas, any quantity.

A fresh lot of Garden Seeds, wholesale or retail.

For sale at the Albany Agricultural Warehouse and Seed Store, No. 369 & 371 Broadway. Feb. 1, 1850. H. L. EMERY.

Louisville (Ky.) Seed and Agricultural Store.

THE subscriber offers for sale,

1000	bushels	Kentucky Blue Grass	seed
600	"	Red Top,	"
200	"	Orchard Grass,	"
200	"	Prime Timothy	"
500	"	" Red Clover	"
200	"	Hemp	"
100	"	Millet	"
100	"	Buckwheat	"

Also, Lucerne and White Clover.

30,000 papers Garden Seeds, assorted, and all varieties of Garden Seeds by the pound.

50,000 Fruit Trees, consisting chiefly of Apple, Peach, Pear, Cherry and Quince.

Also, Grape Vines, Asparagus roots, Strawberry plants, &c., &c., from the nurseries of L. Young, H. P. Byram & Co., Jas. Orr, and G. G. Hikes of this vicinity.

He also keeps every variety of Agricultural and Horticultural Implements on hand, and will be happy to fill orders (accompanied with cash or satisfactory reference) from all parts of the United States.

Feb. 1—2t. A. G. MUNN.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,

Feb. 1—6ms. JOSEPH CALDWELL.

Kinderhook Nurseries.

THE proprietor begs leave to inform his patrons and the public in general, that his stock of

Fruit and Ornamental Trees, Shrubs, Roses, &c.,

For spring planting, is large and thrifty, and embraces all of the best varieties introduced in this country, of Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, Grape Vines, Gooseberries, Currants, Strawberries, &c.

Also, Hedge Plants.

A large lot of Buckthorn Plants, Locust, Privet, Box, &c. Asparagus roots, Rhubarb.

Orders respectfully solicited, and will receive prompt attention. Articles will be carefully packed and shipped to any part of the country.

Catalogues furnished gratis to post paid applicants.

Kinderhook, Feb. 1, 1850—2t. H. SNYDER.

Wanted.

A YOUNG man with a small family to take charge of a nursery, who has some knowledge of farming, and is thoroughly acquainted with the propagation of Fruit Trees.

He must be well recommended as a man of integrity, and to be moral and temperate in his habits. None other need apply.

RUFUS WHITTIER.

Chickopee, Mass., Feb. 1, 1850.—3t.

Highland Nurseries, Newburgh, N. Y.

Late A. J. Downing & Co.

20,000 Apple Trees of the most approved varieties, for sale, (of *extra size*, from 8 to 12 ft. high, and 3 to 5 years' growth,) at $20 per hundred.

Persons wanting trees to sell again, will be dealt liberally with.

Feb. 1, 1850—3t. A. SAUL & CO.

Take Notice.

THREE Months Extra Pay and One Hundred and Sixty Acres of Land will be procured for all who enlisted for five years, or during the war of 1812, and for all, including Volunteers who served in Mexico, and for the heirs of all who have died in the service.

Information will be given to relatives, Free of Charge, by writing to G. F. LEWIS, Detroit, Michigan, (postage paid.)

Those who do not know what became of their friends, write when and where they joined the army Feb. 1—3t.

Stocks, Scions, Evergreens, Strawberry Plants, &c.

B. M. WATSON offers for sale at the *Old Colony Nurseries*, PLYMOUTH, MASS., Stocks of Fruit Trees of first rate quality, suitable for spring grafting and budding in the coming summer, at the annexed prices per 1000. Apple, 1 year, strong, $5; 3 years, transplanted, $10—Pear, 1 year, $8; 2 years, $15; 3 years, transplanted $20—Plum, 2 years, $15—Cherry, 2 years, $12; 3 years transplanted, $15—Quince, large and fine, $18; 1 year, strong, $12—Mahaleb, strong, $25—Paradised, strong, $25—St. Jean, (dwarfer) $5 per 100. Ash, Maple, Laburnum, Lime, SpanishChestnut, Poplar, Mountain Ash, Elm, Alder, &c., &c., 4 feet, at $3 to $8 per 100. Arbor Vitæ, Norway Spruce, Scotch Fir, Balsam Fir, Silver Fir, Larch, Red Cedar, 1 to 2 feet, $5 to $10 per 100.

SCIONS. Apple scions, (fine sorts) $1.50 per 100. Paradise cuttings $8 per 1000. Scions of the finest sorts of pear of established reputation (say 30 sorts,) and of other fruits, $2 per 100, $15 per 1000.

STRAWBERRIES. Burr's New Pine, $4 per 100; Boston Pine, $1; Hovey's Seedling, $1; Richardson's Early, Late and Cambridge (fine sorts) $1.50 per doz.; Early Virginia Scarlet, $1 per 100; Jenny's Seedling. $3; Aberdeen Beehive, $5; Swainstone, $3; Myatt's Eliza, $2; Crimson Cone, $2; Black Prince, $5; Deptford Pine, $3; Princess Alice Maude. $3; Keene's Seedling, $2; Willey's Seedling, $3; White wood, $1;—25 cents to $1 per dozen.

Also, Dwarf and Standard Pears, select Shade Trees, Shrubs and Climbers; Weeping Trees for lawns, Roses, Phloxes, Verbenas, Chrysanthemums, and other fine plants for masses, at low prices, of which a priced list will be sent, post paid, on application.

Also, Pear seed of prime quality.

Feb. 1, 1850.—3t.

New Scarlet Verbena---Robinson's Defiance.

J. M. THORBURN & CO., 15 *John street*, *New-York*,

HAVE now ready for delivery, strong plants of the above splendid Verbena, the finest in England, from whence they obtained it last June, fully testing its quality during the summer. The bloom is of the most vivid scarlet, with fine foliage, and so far from being injured by the heat of the sun, was rather improved, and continued a mass of flowers, rapidly covering the ground, while most others were destroyed by the heat, nor ceased to flower in profusion till checked by frost at the end of October—after which, being taken up and removed into the greenhouse, flowered away till December, and is now (January 21) fully out for a long succession of bloom.—It may be seen in perfection very soon by any one who will take the trouble to visit Astoria.

TESTIMONIALS.—*Gardener's Chronicle*, (Dr. Lindley,) Aug. 28.—"Robinson's Defiance" is a most brilliant flower—fine in form and a good trusser—best of its class.

Gardener's Journal, Sept. 4.—"Robinson's Defiance"—beautiful variety—form good—segments of the corolla broad, firm in substance and flat—color, a brilliant scarlet—habit of the plant good, and a free bloomer.

The Gardener, Sept. 18.—"Robinson's Defiance" is a superior variety, the petals are stout, the flower and truss large and well formed—color, a clear vivid scarlet—the plant is a strong and free grower, with a fine foliage and superior habit—we have not seen its equal.

It received first class certificates and the highest commendation at the following exhibitions—"Royal South London," Sept. 15—"Slough," Sept. 21—"Norwich," Sept. 23—"Metropolitan," Sept. 28—and the "Chelsea Society."

The habit of the plant is equally adapted for potting or bed culture, being short jointed with remarkably fine foliage, and a free bloomer. A large Italian vase filled with it at Astoria last summer, was the most striking object in the garden, and was adored by all gardeners and amateurs who observed it. It was first sent out in England in the Spring of 1848 at 7s 6d sterling per plant, but was not successfully imported here till last season.

A good stock of this beautiful Verbena, (*warranted to answer description*,) being now ready to send out, orders will be promptly executed with strong healthy plants at 50 cents each—$5 per dozen—six at same rate—with a liberal discount to the trade when a dozen or more are ordered.

Also the following additional new Verbenas, from England:

ANACREON—large bright rose, good habit and fine foliage, free bloomer and close set, pretty eye.

BARKERII—scarlet crimson, good spreading habit and profuse bloomer.

ROSY MORN—light rosy crimson, large compact truss, good eye and free bloomer—a beautiful variety.

SATELLITE—orange scarlet, exquisite form and trailing habit, well adapted for large pan pots or vases—foliage soft, serrated, and of a feathery style, extra fine—50 cents each—or if the set of *four* is ordered. $1.50—have been proved a season, and fully answer description.

The following approved older sorts, $1.50 per dozen—Beauty Supreme, Flambeau, Fireball, Major Ringgold, Mestosa, Mary Anne, Othello, Polk, Queen, Roseum Elegans, Smith's Blue Bonnet, and others well adapted for bedding out or in patches.

PETUNIAS—Hebe, Eliza, Beauty of Yorkville, Duke of Bedford and other good sorts—$2 per dozen.

DAHLIAS in dry roots—all the prize sorts exhibited at Castle Garden last October—$5 to $15 per dozen.

☞ Plants of the new Verbenas can readily be sent by mail; by shaking off the soil a half dozen will not weigh over an ounce; by immediate potting on arrival and trifling care, will recruit in three or four days and be in advance and superior condition for turning out in the month of May—of course, much earlier, further south.

Feb. 1, 1850—2t.

The American Fowl Breeder,

A New and Valuable book,

CONTAINING full information on Breeding, Rearing, Diseases and Management of

Domestic Poultry,

And instructions concerning the choice of pure Stock, Crossing, Caponising, &c., &c., *WITH ENGRAVINGS*. By an association of Practical Breeders.

The above valuable work is just published by John P. Jewett & Co., Cornhill, Boston, and it is offered at the extremely low price of *Twenty-five Cents* per copy, to bring it within the means of every man interested in Poultry.

☞ *We want* 100 *Good Faithful Agents*, ☜

To sell this work in every county in New England, New-York Pennsylvania and the West, in connection with

Cole's American Fruit Book,
AND
Cole's American Veterinarian.

Active and intelligent men can make money at the business.

Address, post paid, the publishers.

JOHN P. JEWETT & CO.,
Cornhill, Boston.

P. S. The American Fowl Breeder is done up with thin covers and can be sent by mail to any part of the country. Any person sending a quarter of a dollar by mail, *post paid*, shall receive a copy of the book.

Feb. 1—3t.

Seedlings.

PEAR, Plum. Cherry, Quince, Apples, Horsechestnut, Mountain Ash, and Buckthorn Seedlings for sale. Also seed of the above kinds of trees. Every variety of Fruit and Ornamental Trees. and grafts of the celebrated Virgalieu Pear of Geneva. For sale at the Geneva Nursery, by

W. G. VERPLANCK.

Geneva, Nov. 1.—6t.*

Agricultural Warehouse and Seed Store.

No. 197 *Water street*, (*near Fulton*,) *New-York*.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

The following are a part of the utensils kept for sale by us, which are considered the best in use, all of them having taken the highest premiums:—Wheeler's Railway Horse Power, Threshing Machines and Separators, Grant's Fanning Mills, of six different sizes, for Rice as well as Grain; Mayher's do.; Hovey's Spiral Hay, Straw and Stalk Cutters; Smith's Smut Machines and Buckwheat Cleaners; Beal's Corn and Cob Crushers, for Feed, horse power; Sinclair's Corn and Cob Crushers, for hand or power; Sinclair's Hay, Straw and Stalk Cutters, hand or horse power; Greene's Hay Cutters, 12, 18 and 24 knifes; Mayher's Hay and Straw Cutters, 8. 10, 12, 15, and 18 knifes; Wheeler's Stalk or Cane Cutter, Power Machine; Mayher & Co.'s Corn Shellers, single and double-hand or power; Burrall's Corn Shellers and Separators; Warren's do., wood and iron; Smith's Corn Sheller and Separator, (power,) 1200 Bushels per day; Virginia do. do., hand or power, 600 to 900 bushels per day; Sinclair's do. do. and Husker, power; Whitman's Horse Power, Threshing Machine and Cleaners; Taplins' Horse Powers; Mayher's do. do.; Emery's Threshing Machines, one and two horse power; Emery's Seed Sowers or Corn Planters; Emery's Saw Mill; Emery's Centrifugal Churns; Thermometer Churns, of different sizes; Cylindrical Churns; Atmospheric Churns; Self-Acting Cheese Presses; Hay Presses; Bachelor's Corn Planter; Seed Sowers of different kinds; Bark Mills; Cider Mills; Paint Mills; Coffee Mills; Corn Mills; Fitzgerald's Flouring Mills; Prentiss and Pages' Flouring Mills, Burr Stone; Mayher & Co.'s Eagle Improved Polished Plows, of different sizes and patterns; Worcester do; Mayher & Co.'s common do.; Freeborn do.; Prouty and Mear's Plows of all kinds Center Draught; Sub Soil Plows of different kinds and sizes; Side-Hill do; Double Mouldboard do.; Cultivators, Steel and Cast-Iron teeth; Geddes' Harrows; Ox Yokes and Bows; Single and Double Whiffletrees; Ox Scrapers, of Wood and Iron, large and small; Ox Carts; Farm Wagons; Mule Carts; Wheelbarrows; Canal Barrows; Field and Garden Rollers. Iron and Wood; Wheat Drills; Reaping Machines; Mowing Machines; Rice Hullers; Store Trucks; Ground Augers; Ox-leg and Trace Chains; Pickaxes; Grub Hoes; Rakes, Scythe Sneaths, Grain Cradles, Crow-Bars, &c., &c. In fact, we have every thing wanted for Farming purposes, got up in the best manner, style, workmanship, and of the very best material, of all the latest improvements. We have also for sale a large quantity of the best Seed and Spring Wheat, Oats, Corn, Barley, Rye, Peas, Beans, Turnip, Cabbage, Beet, Carrot, Parsnip, Onion, Radish, Asparagus, Clover and Grass Seed, raised expressly for us, and warranted fresh—a very superior article. We also have a large quantity of Guano, Bone Dust, Lime, Plaster and other Fertilizers on hand, Ornamental and Fruit Trees, Shrubs, &c., of the best quality, furnished to order. Also, Wire Cloth, of all kinds; Castings do., Steam Engines, Sugar Mills, Saw Mills, Shingle and Brick Machines, together with Force, Cistern, Well, and other Pumps.

JOHN MAYHER & CO.,
No. 197 Water street, New-York.

Feb. 1, 1850—tf

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Geo. Glenny's New Farm & Garden Newspaper,
"THE COUNTRY GENTLEMAN,"

IS published in London, on Mondays in time for post, with the latest market prices of Corn, Meat, Cattle, Seeds, and Money, and is the very best weekly Review and Family Newspaper in England, as well as the acknowledged highest authority in all matters connected with Horticulture. Price 6s. 6d. per quarter in advance.

Address GEO. GLENNY,
March 1—3t. 420 Strand, London.

Bloodgood Nurseries,

Flushing, L. I. near New-York.

KING & RIPLEY, PROPRIETORS,

OFFER for sale every variety of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Grape Vines, Hedge Plants, Raspberries, Strawberries, &c.

We have 20,000 Peach Trees, of one, two and three years growth, and our Fruit Trees generally, are of *large size* and *thrifty*.

Orders sent to us at Flushing, or 244 Pearl St., New-York, (where Catalogues may be obtained gratis,) will receive immediate attention, and the trees packed with much care for transportation.

March 1, 1850—1t.

Hamilton Nursery.

THE proprietor of this establishment confines himself wholly to the propagation of hardy Fruit Trees, all of which have been obtained from the most reliable sources, or cut from bearing trees of well known varieties. About sixty varieties of Plums and a large quantity of the Apples have been proved on his own grounds; and all are cultivated with his own hands assisted by his son, who is soon to assume a personal interest in the business. And all the cutting of buds or grafts, and the labelling of Trees with the oversight of taking up and packing being done by him in person, he feels confident of being able to give as good satisfaction as to correctness, as can be given by any other nursery. The stock of Apples and Plums is large and embraces numerous varieties, so that the fruit grower and amateur Horticulturist can each be supplied.

A liberal discount to nurserymen and dealers in Trees.

Seedling Stocks of Apples and Plums for sale.

Agents.—Geo. G. Sheppard, 145 Maiden Lane, New-York; H. L. Stephens, Honesdale, Pa.; and Wm. J. Hamilton, Kingwood, Mc Henry Co., Ill.

Catalogues sent gratis to all post paid applicants.

CHARLES HAMILTON.
Canterbury, Orange Co., N. Y., March 1—1t.

To Fruit Growers.

THE subscriber cultivates at his various nurseries, and has for sale at his residence, *Eustis St., Roxbury, Mass.*, all the choice varieties of the

Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees. Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, &c.

Also, several thousand Pear Trees on the quince, 1, 2, 3, 4, and 5 years from the bud.

Particular attention paid to the cultivation of the *PEAR*; persons wishing extra sized trees, *or Trees on Quince Stocks in a bearing state*, will please call at the nurseries, and make their own selection.

Buckthorn for Hedges, One, Two and Three Years Old.

Ornamental Trees, Shrubs, Roses, Herbaceous Plants, Pœonies, &c.

Scions of all the varieties of the Pear, of established reputation, and also of other fruits.

The whole for sale at the market price.

SAMUEL WALKER,
March 1, 1850.—3t. Roxbury, Mass.

Nursery of J. J. Thomas,

Macedon, Wayne Co., N. Y.

THIS nursery now contains many thousand fine trees, of large, handsome and thrifty growth, consisting of Apples, Pears, Cherries, Peaches, Apricots, &c., and the smaller fruits, of the best standard sorts, and most of the finest new varieties; ☞ *in all cases they have been propagated for sale after being thoroughly proved in bearing.* ☜

The collection of APPLES, consists of many thousand large trees, mostly 7 to 9 feet high, embraces the finest standard varieties, and nearly all the valuable new sorts.

When purchasers desire, selections of the best for affording a regular succession of fruit throughout the season, will be made by the proprietor.

A carefully assorted collection of hardy ornamental trees, shrubs, and herbaceous perennial plants, will be furnished at very moderate prices.

Trees for canal and railroad conveyance, will be well packed in bundles, enclosed in strong mats, with the roots mudded and encased in wet moss, so as perfectly to preclude all danger of injury.

All communications, post-paid, to be directed Macedon, Wayne Co., N. Y.

☞ The proprietor, wishing to make some alteration in his grounds now occupied with a fine growth of large sized apple trees, will furnish a good selection, chosen mostly by himself, of summer, autumn, and winter fruit, of the finest standard varieties, at $16 *per hundred*, without charge for packing, where the orders, with remittances, are received before the first of 4 mo. (April) next. Also, *Cherry trees*, 9 or 10 feet high, suitable for planting avenues, of the finest kinds only, selected by the proprietor, at $25 per 100.

March 1—1t.

Fruit Trees for Sale.

THE subscriber offers fruit trees at very reduced prices. Having a large stock of the following kinds on hand, he will sell Apple trees at $12 per hundred.

Cherry Trees, $25 per hundred,
Frost Gage Plum Trees, $20 to $30 per hundred.

Early Golden Apricot trees, from one to four years old (on peach stock) from $6 to $15 per hundred; (on plum stock,) 20 cents. All the above trees are smooth and healthy.

Isabella Grape Vines, 1 year old, $7 per hundred.
2 do $10 do.
3 and 4 do $12 do.
3 years old, transplanted, $14 do.

The vines have all been annually cut to the ground, and have fine roots for planting.

Also, a few thousand Fir Trees, from 1 to 3 feet high, at 8 cents pr foot.

All other trees sold as low as at any other nursery.

Fishkill Landing, March 1, 1850—1t. CHARLES DUBOIS.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

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☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, APRIL, 1850. VOL. VII.—No. 4.

Culture and Manufacture of Flax.

It is doubtless known to most of our readers that flax is largely cultivated in some parts of the country, wholly for the seed, the stalks being thrown away. In some of the rich districts of Ohio, particularly in the Miami Valley, this branch of agriculture is carried on to a great extent. A correspondent of the Ohio *Dollar Statesman* gives an interesting account of the flax culture of that section, with some valuable suggestions in regard to the manufacture of flax. He states the average yield of seed at ten bushels per acre, though in some instances it reaches fifteen bushels. The ordinary price per bushel in Dayton, where the seed is principally sold and the oil extracted from it, is eighty cents to a dollar; but last year, owing to scarcity, the price ranged from a dollar and ten cents to a dollar and forty cents per bushel, of 52 pounds. The amount of seed worked up in the city of Dayton annually, is put down at 150,000 bushels. There are five mills, which, altogether, use ten hydrostatic presses, some of them having a power of 1,000 tons each. The oil is principally sent to Cincinnati and thence to New-York, and the oil-cake is exported to England, where it brings $40 to $50 per ton, and is used for fatting cattle and sheep.

The income which the crop affords per acre, after paying all expenses, is given as $3. This must be considered a small amount, though some additional credit may be allowed the crop from the fact, as stated, that the farmers are able to obtain "a much larger return of wheat, to be sown after flax, than used to be harvested when that crop followed in succession after corn, or even summer fallow." The writer suggests that a system may be adopted by which the profits of the crop may be greatly increased. The quantity of seed, he thinks, may be brought up to 20 bushels per acre, and four to five hundred pounds of fibre may be obtained in addition—the seed to average ninety cents to a dollar per bushel, and the fibre eight to ten cents per pound. The following extracts denote the writer's views in regard to the proper course to obtain these results:

To obtain so large a return of fibre and seed, an improved system of cultivation and rotation of crops will have to be put in practice. What this system is, I shall presently explain. Flax requires a rich soil, one that is calculated to produce an abundant yield of straw; and the subsoil within from eight to twelve inches of the surface, should be clay. This, however, is not absolutely necessary, but a strong fibre, and an abundant yield of seed, are not so likely to be obtained from a sandy soil, or where it is principally composed of vegetable remains to the depth of from one to two feet, as where the clay comes within from six to ten inches of the surface. The soil for flax should be plowed in the autumn to the depth of from eight to ten inches, and in the spring it should be again plowed, harrowed and rolled before the seed is sown. Instead of sowing from three to four bushels per acre, not more than two should be sown. The period for sowing the seed should invariably be governed by the following simple rule, that has, in all countries where flax is extensively grown, been found to give a large return, even in adverse years. As soon as the indigenous forest trees begin to put out their leaves, the sowing of flax should be commenced, and the entire operation should be completed by the time that the leaves are fully out. The seed should be covered very lightly, and as soon as the plants are above ground, a top-dressing of one bushel of salt, one bushel of plaster of Paris or gypsum, and two of common house ashes to be sown broadcast, will secure a vigorous growth, although the season may be very adverse for the flax crop. By the first of July, the crop will be ready to be pulled, and this operation will require a large force of hands, if the crop be large, to secure its being done at the proper season. As soon as the straw begins to get yellow, and whilst the capsules or seed balls have yet a light green color, the business of pulling the crop should be commenced, and as soon as practicable after that period, the entire crop should be pulled. By early pulling, the seed will have a bright appearance, and the straw will have an uniform color and texture, and be worth at least twenty-five per cent. more for manufacturing purposes, than if pulled when ripe. Flax may be pulled in the neighborhood of large towns, where redundancy of labor of the right description, can usually be had for $3 per acre, including board, lodging, &c.; and in a densely populated neighborhood some distance from town for $3.50 per acre; which of course would include binding and shocking. This expense may be considerably reduced by using a machine for pulling flax, that was invented at the village of Waterloo, Seneca county, New-York. This machine, by the aid of one horse, a man and a boy, will pull from three to four acres per day, performing the work, if the crop stands up tolerably well, with as much neatness as though it was done by hand.

As soon as the straw becomes cured, it should be drawn to the barn to be threshed, which labor will require to be performed with the flail. The next process is water or dew-rotting; then follows the breaking and scutching, the latter of which finally prepares the fibre for market. Much skill is required to properly rot, break and scutch flax, but like all other branches of industry, it may be mastered, provided those who engage in it are determined to overcome all difficulties. Competent hands may be had, consisting of experienced flax dressers who have emigrated from the flax-growing countries of Europe in order to improve their condition, and those who engage extensively in the growth of this crop, should secure the services of men who understand the business in all its branches. The day has passed when flax can be successfully broken and scutched by hand labor. Breakers and scutchers to be driven by steam or water power, are the only means that are now thought practicable to manage flax so as to make linen goods sufficiently cheap to compete with cottons. Machinery can be had that will not cost beyond $400, which will clean in a proper manner from 500 to 600 lbs. of clean scutched flax per day, at an average cost, including the expense of rotting, of not more than two cents per lb. for clean scutched flax. Great improvements have been made in Ireland, in Scotland and in some portions of the United States, in the machinery for the preparation of flax for market; and those who may extensively engage in the business, would do well to make themselves acquainted with those improvements, and employ such as have been found the most economical and efficient.

The annual importation of all descriptions of flaxen goods in our country, cannot be much less than $10,000,000, and the high duty that is levied upon goods of this description, the exchange between Europe and this country, the cost of transportation, &c., afford a guarantee of the most substantial kind, for the profitable prosecution of the linen business. Machinery for some years past has been in successful operation in Scotland, in the north of Ireland, and in Leeds, England, for the spinning and weaving of flax goods, which turns out linen fabrics of the finest staple at nearly as low rates as what it costs to manufacture cotton goods. In Massachusetts, and in Paterson, N. J., similar machinery has been for some time employed in extensive linen and shoe thread establishments, and the prospect now is, if the farmers will only come up to the work as they might do by employing more skill in their business, that the United States before long will be as independent of other countries for linens, as they have nearly become in cotton and woolen goods.

The value of a good quality of flax in England, may be fairly quoted at from $150 to $300 per ton, at which price it might be sent to that market from Ohio, netting a fair profit to the grower, if machinery of the most improved description and skilful laborers be employed in prosecuting the business. The annual importation of flax and flax seed into Great Britain for the past ten years, has cost $50,000,000, and not a fraction of that money finds its way into the hands of the farmers of the United States. But what makes this matter still worse, a considerable portion of this flax is manufactured, on which the British manufacturer makes a large profit; it is then shipped to our country, a high duty is paid at the port of entrance; it is then sold at a considerable higher profit than if it were manufactured here. To place this great interest on its true and legitimate basis, we, as a people, must become not only the producers, but the manufacturers of linen fabrics, threads and twines; and by availing ourselves of the improvements effected in other countries, where the growth and manufacture of flax is a leading branch of agricultural and mechanical industry, it will be found to be productive of the most important results to the inhabitants of this State.

I am highly gratified in being able to inform you that a beginning, for the first time, has been made in this city, in the manufacture of flax goods, which affords the strongest evidence that an entire revolution will shortly be made in the business of flax growing in Montgomery county. The establishment is owned and conducted by Messrs. McCann, Carnegie & Co., who have embarked some $15,000 in it, employing the most improved Scotch machinery, and also Scotch spinners and weavers. The firm purchase the flax straw of the farmers, paying for it at the rate of $7 to $10 per ton, according to quality and rot, break and scutch it themselves. The breaking and scutching apparatus are constructed on a plan very different from those in general use, which are driven by water power, performing the work with greater despatch and efficiency than any machinery for that purpose that has been introduced into this western country. The tow made by the scutchers is manufactured at present into a strong and even carpet thread, and the clean scutched flax is manufactured into twines, &c., all of which will be sent to the Boston market.

The Flax Rust—(*Puccinia Lini.*)

BY ASA FITCH, M. D.

In connection with the preceding article, we have thought it proper to give the following remarks, written for the forthcoming volume of the N. Y. State Ag. Society's *Transactions*, in reference to a malady which has in some instances proved very injurious to the flax plant, and a considerable hindrance to its cultivation.—EDS.

The disaster of which we are about to speak, is altogether the most baleful of any to which the flax crop in Eastern New-York is subject. And yet, in but a single instance do we find any allusion to it, in the botanical and agricultural works which we have at hand, though some of these latter profess to treat of "all" the diseases and casualties to which this crop is liable.

In the Transactions of the Society of Arts of the State of New-York, vol. ii, pp. 185, 187, is a short article from the pen of the Hon. Ezra L'Hommedieu, entitled "Description of a late disease in flax on Long-Island," in which we are informed that this disease first commenced in the town of Bridgehampton, near the east end of that island, about the year 1803, and the following year extended eight or ten miles further, and within two years thereafter was all over the eastern part of the island, "so that there is but little flax raised." In 1806, the same disease attacked the crops in Pittsfield and Richmond, Mass. It is described as a small black speck about the size of a pin-head, sometimes with a slight black streak about half an inch long proceeding from it; and this spot, it is stated, comes only upon or near the middle of the stalk, and does not make its appearance till the flax is pulled and dried. We think this description is drawn from specimens in the incipient stage of their growth, or else that at that early day the disease had not developed itself so far as to put on the marks which it now wears. On being dressed, the flax-stalk, it is stated, breaks in two where this spot appears; and though the affection was popularly regarded as a kind of mildew, Mr. L'Hommedieu thinks it more likely that it proceeds from the sting of an insect, which lets out the sap or juice, and rots the stalk in that part—though he had been unable to detect any insect which he could regard as producing this wound.

We proceed to give the facts that are within our knowledge, respecting this disease.

The "flax-rust," as it is termed by our farmers, seems to prevail more in some years than in others. In 1846, several fields were badly injured by it. The past year, 1849, which was noted for its drouth, there was scarcely any of it. Upon one point, our flax-growers generally concur. Where it does appear, it is almost invariably upon flax growing upon land that has been fertilized by artificial manuring. It would hence seem that a rank, luxuriant growth, such as an unduly rich soil produces, was a prominent exciting cause of this malady. Crops of flax, moreover, that are unusually late, seldom escape. Gen. McNaughton, of Salem, relates to me a notable instance, illustrating this fact. An old resident in his neighborhood, though a very worthy citizen, was always behind-hand with his work, so that he was never known to get his flax sown until some time in the month of May; and he was never known to have a crop but what was badly rusted—this disease commonly making its access after the patches of flax on the adjoining farms had all been pulled.

It is a little before the flax is gathered, that this malady usually makes its appearance. The earlier the attack, the greater is the injury. If it does not come on until just as the flax is being pulled, it is believed that it causes but slight damage. It comes in the form of black spots, looking as though a small drop of tar or some such substance, had previously been put upon the stem, and had spread out into a thin pellicle, concreting upon and adhering to the surface. If these spots have any different appearance in the incipient stages of their formation, none of my informants have observed it. They appear mostly upon the upper and branching parts of the stalk, but are sometimes scattered along its whole length; and wherever one of these spots appear, it rots off and destroys that part of the fibres of the flax with which it is in contact.[1] If the spots are only at the top of the stalk, the injury is but slight; but when a solitary spot occurs any where near the middle of the stalk, every fibre with which it is in contact is lost; for the reason that, when the flax comes to be dressed, as it is held under the knives of the dressing machine, the upper part of all those fibres which have been cut asunder by the rust-spot, is whipped out among the tow; and when the operator turns the handful to dress its opposite end, the remaining part of these same fibres is similarly taken away. Hence a spot of this mildew reaching half round a stalk near its middle, occasions a loss of half the fibres in the stalk; and this seems the more lamentable, because these wasted fibres are good flax, except the minute portion that was covered by the rust. As an example of the loss that is sometimes experienced from this cause, the following may be related. Anson Collins, of Jackson, in 1846, sowed an acre of flax beside his barn, where the soil, it is evident, would be in a high condition as to fertility. It grew finely, and from its thrifty appearance, there was no doubt it would have yielded over two hundred pounds of dressed flax. But the rust invaded it, and from this cause alone, forty pounds was the entire product of the piece.

I have had no opportunity of seeing this disease in the growing flax. A few specimens of it, however, found after much search upon dried flax, are now before me. These, I am assured, exhibit perfectly the usual appearance of this disease. The spots are about one-fourth of an inch in length, and reach about half way around the branches of the stalks on which they occur. They are of a coal-black color, their edges well defined and visibly elevated above the level of the contiguous bark. A magnifying glass shows that the epidermis or thin outer bark is unbroken, but is merely raised up, as it were in a blister, which has become black and gangrenous. There is no doubt, therefore, that these specimens are immature, and that had the flax stood a few days longer, the epidermis would have been ruptured. Enough, however, is shown by them to clearly indicate the nature of this disease. It is obviously a parasitic fungus of the group CAEOMACEÆ, or dust Fungi, of naturalists; and though its generic marks cannot be fully seen in these specimens, I have scarcely any hesitation in referring it to the genus *Puccinia*. In all the points of its history as above narrated, the reader will have perceived a close analogy between this and the common grain-rust, (*Puccinia graminis* of authors,) which so frequently attacks our oats, wheat, &c. But this flax-rust is evidently a distinct species from the grain-rust. All the best authorities discountenance the idea that the grain-rust ever attacks any plants except those pertaining to the grain and grass families. That appears, moreover, in the form of long, narrow spots, whilst here the spots are broad, oval, and with rounded, or irregularly sinuated ends. The characters herewith adduced are ample for distinguishing this species from the grain-rust, and from the several other species of blight and mildew of which I have any knowledge.* The name *Puccinia Lini*, literally meaning *the rust of flax*, is therefore proposed for this species, and a more definite description of its structure is reserved, until it has been examined in its growing and matured state.

To render this subject more plain to the general reader, it may be observed, that the rust-spots on flax, as on other plants, are occasioned by clusters or tufts of exceedingly minute mushrooms, which take root among the fibres of the inner bark, and by their growth raise up and distend the epidermis until it bursts; whereupon their seeds escape and float off in the atmosphere, or settle to the ground. How these nearly infinitesimal seeds find their way into the plant, to there vegetate, is not conclusively ascertained. The most plausible supposition appears to be, that they are disseminated in the soil, from whence they are imbibed by the roots of the plant, and are carried upwards by its juices, until they reach the appropriate places for them to grow. Drawing their nourishment from among the fibres of the flax, that portion of these fibres which is thus exhausted, withers and decays. Yet if the fungi have only commenced growing when the flax is pulled and dried, their further growth is arrested, and the fibres in which they have nestled, are then but slightly disorganized.

From the facts that have now been related, it appears that the main safeguard against this malady, is early sowing upon ground that is not fertile to excess, especially from raw animal manures.

Where, from the vigorous growth of the flax, there is reason to fear it may be invaded by the rust, as the period for gathering it approaches, it should be closely watched, and that part of the field particularly examined where the crop is most luxuriant. And if it is discovered at any time that this blight is making its appearance upon the stalks so as to threaten serious injury, the crop should be pulled and dried without delay. Thus the loss which is otherwise inevitable, may be averted. There is but one consideration that will cause any one to hesitate in adopting this course, and that is the diminished amount of seed that is liable to be obtained if the crop is prematurely gathered. The rust, however, does not commonly make its appearance until near the time for pulling the flax, when most of the balls are so far advanced that the seed within them will ripen, though they are more immature than is desirable. The loss in the seed will therefore in most cases be small, compared with the loss that will be sustained in lint, if the crop remains many days ungathered, after this malady makes its appearance.

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* How numerous are the kinds of rust, blight, smut, &c., which infest the vegetation of this country, is indicated by the fact, that that distinguished botanist, the late Rev. L. de Schweinitz, in his "Synopsis of North American Fungi," published in the Transactions of the American Philosophical Society, vol. iv, pp. 141—316, enumerates as known to him, forty-two species of *Puccinia*, and a yet larger number pertaining to each of the allied genera, *Uredo* and *Æcidium*.

Agricultural Chemistry.

Eds. Cultivator—The application of Chemistry to Agriculture formed a new era in agricultural improvement. Scientific minds brought their energies to bear on the subject, and a vast amount of knowledge is the result of their investigations. The theories of active, inquiring minds which experiments seemed to sustain, were tested,—those that were true, established, and those that were false, abandoned,—and every truth developed, prepared the way for further discoveries. Science answers the interrogatories of Art, which must otherwise have remained in doubt; for speculative experiments in agriculture lead to no results that can be relied on.

Works on Agricultural Chemistry are so numerous, that all may furnish themselves with the means to become acquainted in some degree with the *science* of agriculture. The results of experiments conducted by deep-searching minds, have been given to the world. The operations of nature in the chemical changes that are constantly taking place in the vegetable kingdom, are no longer shrouded in mystery; for the laws that govern vegetation in its rise, growth and decay, have been searched out by science, and are now plainly understood.

Prof. Liebig has given in his "*Familiar Letters on Chemistry*,[*] a great amount of information at once interesting and instructive; and it may be studied with profit by the farmer, manufacturer and merchant. The application of chemistry to physiology, is perhaps, not so generally understood as in its application to agriculture. It is true, man may live and breathe, eat, drink, and labor through a long life, in entire ignorance of the laws of his being; without understanding how he lives, why he breathes, or in what way food sustains life, and adapts his system to endure labor. Still it is not to be denied, that with a knowledge of physiological laws, he might escape many of the ills of life that ignorance inflicts upon him. Every one knows that the system daily requires a certain amount of food, but few know how much it requires, except as they are told by the appetite, and that is not an unerring monitor. Especially in the case of young children, ignorance is the rule rather than the exception, as to the quantity and kind of food necessary for life and perfect health. Food must contain all the elements that form the various parts of the system, and what is required to sustain the waste that is constantly going on. But what are these elements? and why is one kind of food more nutritious than another? or why nutritious at all? Science alone can answer these questions. Flesh, blood and bone contain nitrogen and phosphates, therefore the food must contain these, or it cannot be converted into blood, which is the life of the system. A part of the food must also consist of carbon and hydrogen, for the oxygen that is taken into the lungs in respiration, combines with these elements for the production of animal heat. Hence, life cannot be sustained by gum, starch, sugar or spirits, because they contain neither nitrogen or phosphates, nor can respiration be continued without these in some form; that is, their carbon and hydrogen. In feeding animals, a knowledge of this subject is important, in order to understand what substances are best adapted to the growth of muscle and fat, or to give strength to labor. It would not do to feed animals on turneps or potatoes alone, as they contain from 75 to 92 per cent. of water, and but a small portion of nitrogen. It is well known that hay is better than grass for working animals, and still better is it to feed some with oats or corn. Chemistry as applied to physiology, informs us in regard to all these matters, and is a study with which all farmers should be acquainted.

A knowledge of agricultural chemistry is but little disseminated, even among that class of people that it is especially designed to benefit. Indeed, the science is not yet fully developed, for the field of investigation is extensive, and progress necessarily slow, owing to the complicated nature of chemical examinations and experiments. But much has already been done, and the knowledge elicited is exerting a great influence in agricultural improvement. In the results of investigations that have been reached by different processes of reasoning and experiments, it would be strange if there was always an exact agreement. But if there are errors, no doubt but in time they will be discovered and corrected. It is the generally received opinion, I think, that manures are valuable in proportion to the amount of nitrogen they contain. Dr. Dana maintains this opinion in his *Muck Manual*, p. 123. "The nitrogen then, in dung, is that organic element, to which must be attributed its chief enriching quality." And on page 143, "A great part of the value of bone as a manure, depends on its cartilage." Liebig in Letter 16, says—"My recent researches into the constituent ingredients of our cultivated fields, have led me to the conclusion that of all the elements furnished to plants by the soil, and ministering to their nourishment, the phosphate of lime, or rather the phosphates generally, must be regarded as the most important." p. 52, "Bones contain from 30 to 36 per cent. of earthy matter—chiefly phosphate of lime, and the remainder is gelatine. Their efficacy as manure does not depend, as has been generally but erroneously supposed, upon the nitrogenized matter which they contain, but on their phosphate of lime." pp. 14, 54.

Liebig also maintains that the atmosphere contains a sufficient quantity of carbon and nitrogen, for all the purposes of vegetation, and if the other elements exist in the soil, these will be supplied from the atmosphere. By a process of reasoning which appears perfectly correct, in which a great variety of facts and experiments are taken into consideration, he arrives at the following conclusion:—"The effect of an artificial supply of ammonia as a source of nitrogen, is therefore, precisely analogous to that of humus as a source of carbonic acid—it is limited to a *gain of time;* that is, it accelerates the development of plants. This is of great importance, and should always be taken into account in gardening, especially in the treatment of the kitchen garden: and as much as possible in agriculture on a large scale, where the time occupied in the growth of the plants cultivated is of importance." p. 52.

The following extract shows plainly the importance of *science* in conducting farming operations successfully. If a farmer, without the guidance of just scientific principles, is trying experiments to render a field fertile for a plant which it will not otherwise bear, his prospect of success is very small. Thousands of farmers try such experiments in various directions, the result of which is a mass of practical experience, forming a method of cultivation which accomplishes the desired end, for certain places; but the same method frequently does not succeed—it indeed ceases to be applicable to a second or third place in the immediate neighborhood. How large a capital, and how much power are wasted in these experiments! Very different, and far more secure, is the path indicated by SCIENCE; it exposes us to no danger of failing, but on the contrary, it furnishes us with every guaranty of success. If the cause of failure—the barrenness in the soil for one or two plants—has been discovered, means to remedy it may readily be found.

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[*] Chemistry, in its Application to Physiology, Agriculture, and Commerce. By Professor Liebig. Fowler & Wells, New-York. Price 20 cents.

"The most exact observations prove that the method of cultivation must vary with the geognostical condition of the subsoil. In basalt, graywacke, porphyry, sandstone, limestone, &c., are certain elements indispensible to the growth of plants, and the presence of which renders them fertile. This fully explains the difference in the necessary methods of culture for different places; since it is evident that the essential elements of the soil must vary with the varieties of the composition of the rocks, from the disintegration of which they originated.

"Wheat, clover, turneps, for example, each require certain elements from the soil; they will not flourish where the appropriate elements are absent. Science teaches us what elements are essential to every species of plants by an analysis of their ashes. If therefore, a soil is found wanting in any of these elements, we discover at once the cause of its barrenness, and its removal may now be readily accomplished." p. 40.

To all interested in scientific studies, this work will be exceedingly interesting, as it contains a great amount of valuable knowledge on the subject of which it treats. It is *one* of the books that farmers need. W. L. EATON. *East Weare, N. H.*

Indian Corn.

EDS. CULTIVATOR—Taking all things into consideration, I think the Indian corn crop is one of the most important that is raised in this country. The grain is used largely as an article of human food, and for the sustenance of all our domestic animals. A few remarks in regard to its cultivation in New-England, may not be inappropriate at this season of the year.

PREPARATION OF THE GROUND.—The selection of the soil and preparing it for the crop is of importance. If you have an old tough meadow or pasture that you design for corn, plow it in November, just before the ground freezes up. Lay the ground over smooth, to the depth of eight inches, following with a subsoil plow, and going down six or eight inches lower. Then make it smooth with the roller, and let it lie till spring. When it is sufficiently dry, harrow it with a fine-tooth harrow. If you have a good lot of compost manure, give a good top-dressing, and plow it in with a shallow furrow, leaving the old sward undisturbed.

If the soil is light and mellow, it is preferable to plow and subsoil in the spring, first spreading on the coarse unfermented manure, which is to be plowed in. For marking out the rows for planting, a "corn-marker" may be used to advantage. It is made by taking a piece of scantling, three inches square and ten to twelve feet long, with teeth of hickory or white-oak, inserted at distances of two to four feet, according to the width designed for the rows. Then an old pair of wagon-thills and a pair of old plow-handles are put to it, and your marker is done. With a good horse to draw this implement, the ground may be made ready for planting very rapidly.

It has formerly been the practice in Connecticut, and still is to some extent, to plow corn-ground into ridges,—particularly when the ground is in sward. This is done by turning two furrows together, leaving a narrow strip between the furrows to be plowed afterwards. This mode requires a great deal of hard labor in the course of cultivating the crop. An experience of ten years leads me to the conclusion that a crop can be cultivated with one-third the expense, where the ground is left flat, than where it is ridged; and I see no advantage in the latter mode, except where the ground is wet.

The difference in the two modes is chiefly this:—where the ground is ridged, the corn being planted between the edges of the furrows it comes immediately in contact with the manure, springs up and grows rapidly the fore part of the season. Where the ground is left flat, and the manure turned under the furrows, the corn will often look feeble at first, and in growth will frequently be much behind that on ridges; and the inference, early in the season, is, that the ridged ground will give the best crop; but as soon as the roots of the corn on the flat ground, get hold of the manure, (say about the 20th of July,) the corn will shoot rapidly ahead, and the full force of the manure will be given to the stalk just at the time of forming the grain. Corn cultivated in this way, if the soil is deeply tilled, will often keep green, while that on ridges is dried up.

PREPARING SEED AND PLANTING.—Many farmers, at planting, shell the corn off the cob and plant it dry. Others soak it a few days in warm water. But when the seed is only treated in this way, it is very likely to be pulled up by birds and injured by worms. To prevent this, I first soak the corn in a strong solution of salt-petre; then take a quantity of tar, and having warmed it over a fire, pour it on the corn, and stir with a stick or paddle till the corn is all smeared with the tar; then add plaster till the corn will separate freely; and have no trouble in planting.

It is sometimes complained that tarred corn does not come up well; but when it is arranged as here described, there is no trouble on this score. No birds, not even crows, will pull it up. Some of my neighbors, who planted their corn without tarring, and whose fields were strung entirely round with cord the past season, suffered much by these birds. There is something in the smell of tar which is disliked by birds. I have frequently seen half a dozen crows at a time, walking over my corn fields; but not a hill would they touch.

The time of planting, will of course vary with the season. In this section, however, it may generally be planted from the fifteenth to the twenty-fifth of May. That which is planted late, often escapes the spring frosts, which injure that which is planted early. Thus it often happens that corn planted the 10th of May, is cut down by frost, and gains nothing over that planted the 25th of the same month.

AFTER CULTURE.—Where the ground is flat, I do not recommend the use of the plow at all; a light harrow, or a cultivator, is much better to go between the rows. If the cultivator is drawn both ways, very little labor is afterwards required with the hoe, except to weed out the hills, thin out the stalks, &c. Formerly, a great deal of useless labor was spent in hilling up corn—indeed, in dry seasons it was worse than useless, for the corn was injured by it. The earth hauled round the stalk does not assist its growth, nor aid in holding it up—the brace roots, which come out as the stalk increases in height, support it; and it has been observed, that in a heavy storm and thunder-gust, corn that is hilled will be broken down more than that which is not hilled. The ground which is kept level has also the advantage of more readily absorbing rain—rendering the crop less liable to suffer from drouth.

I generally give corn two regular hoeings, and after haying, (say first of August,) go through the field with the hoe and clean out the weeds. My fields are generally clean, under this system; but it should be made a rule to keep down the weeds at any rate.

Harvesting.—My way is this: two hands take five rows, cutting the corn close to the ground. They leave a hill standing to form the centre of the shock, placing the stalks round it—never laying them on the ground. After the shock is made of sufficient size, take a band of straw, and having turned down the tops of the stalks, bind them firmly, and the work is done.

Corn may be cut up as soon as the centre of the grain is glazed, even if the stalks are green. There will be sufficient nutriment in the stalk to perfect the ear; and the fodder is much better than when it gets dry before it is cut. If the shocks are well put up, they may stand four or five weeks. The corn may then be husked out, and the fodder secured for winter use. L. Durand., *Derby, Ct., March*, 1850.

Suggestions, in answer to inquiries of E. W. Jones.

(*Cultivator for March*, p. 118.)

Editors of the Cultivator—In the March No. of *The Cultivator*, your correspondent, Ed. W. Jones, Esq., of Clover Hill, N. C., solicits advice as to the method he shall pursue to improve Lots Nos. 6 and 7, of his land. I feel some diffidence about putting forward the following remarks in reply to his inquiries, for there are so many local and particular circumstances which I ought to know, and yet which I cannot know, that any thing I can say will doubtless need to be received with many qualifications. Your correspondent will therefore please understand that in what follows, I am addressing him, not in the language of *advice*, but in that of suggestion; and if my remarks are of any value, they are very much at his service.

The first thing to be done, in attempting the improvement of wet land, of every description, is to drain thoroughly. You are doubtless well informed as to the various approved modes of draining, some of which, with such variations as your judgment will dictate, it is to be presumed will fit your case.

After thorough drainage, and when the land is in grass, irrigation will probably prove advantageous. The water should flow gently over the surface, while the new grass is springing, and until it has grown sufficiently to cover the ground well, and then it should be taken off, or it will injure the quality of your hay. Too much water may be used,—thus drowning the grass roots and overcharging and chilling the land. While water imbibed by the soil from rains, dews, or gentle irrigation, is particularly grateful and invigorating to the cultivated grasses, stagnant water, or a soil surcharged with water, is destructive to them.

After draining, the leading fundamental idea in renovating your barren clay should be, as it seems to me, to change its texture and alter its chemical constitution. This may be done by a proper system of manuring and a proper rotation of crops. A few of your first dressings of manure will need to be heavy, in order to start the land and perceive any marked results; and it would therefore be well to avail yourself of the vegetable substances which you say are abundant on your premises, and compost them with the droppings of your farm-stock;—say as much as two parts of muck, or of vegetable mould from the woodlands, to one of manure. Having provided such a compost, I would take one of the fields in hand and plow a surface furrow, say five or six inches deep, and following with the subsoil plow, loosen the lower stratum eight or ten inches deep, which will let in warmth and moisture, and extend the range for the roots of your crops. I would plow at that season of the year which, with you, is best adapted to assist in pulverization. With me, it would be best to plow late in the fall, for the frosts of winter help very much to break down and divide the clay.

In the spring, I would spread 40 loads (or 20 cords) of compost per acre on the inverted furrows, and harrow and cross-harrow till all is fine and well mixed. Plant corn, if you please, work the land often with the cultivator or other pulverizer, and keep down all weeds, so as to have a clean surface for the following crop. I would next seed to grass with such grain and at such season of the year as is best calculated to insure a good catch of grass. In doing this, I would loosen and level the surface, without disturbing the sod underneath; for its gradual decomposition there will keep the land lighter and mellower than it would be if the sod were again brought to the surface.

In stocking to grass, I would sow the seed with a liberal hand. It should undoubtedly be a principal object with you to fill the clay intimately with grass-roots. Penetrating the soil in every direction, these roots open, loosen, and finely divide it, and admit heat and moisture. When the land is again broken up, the decay of this mass of vegetable fibre, intimately pervading the soil, mellows it, forms a sort of reservoir to receive and retain moisture, and it furnishes important nourishment to the crops of the next rotation. I would, therefore, sow at least 12 lbs. of clover seed per acre, together with 12 quarts of herd's-grass, and a half bushel of red-top seeds, or such other meadow grasses as you prefer, in like liberal proportions.

By the end of the second year, the clover will mostly disappear, and the other grasses will then take possession and form a rich sward. The clover roots, filling the clay everywhere, have finely divided it, and in their decay, will add vegetable matter for the nourishment of the other grasses. While the land is in grass, use the irrigation. It will, among other things, thicken up the sward. If you please, you can top-dress the grass with alluvial mould, or sand or gravel loam, at the rate of from 40 to 100 loads per acre, with manifest advantage to the land and the grass. You are no doubt aware that there are no improvements in farming of a more permanent nature than those made by a judicious admixture of soils. But if this is inconvenient and costs too much, a top-dressing, either of fine farm-yard and muck compost, of muck and ashes, of muck and lime, of muck and alkali in any other form, or of any of the other highly concentrated manures, will be serviceable in increasing the crop and thickening up the sward.

If, after the land has lain in grass for the space of four or five years, you have succeeded in getting a rich, thickly-matted sward, you have gained an important point. When this sward is plowed under for a new rotation, its mechanical and other influences upon the clay will have an important bearing. As soon as this sward has formed, say in four or five years after seeding, plow again, running each plow an inch or two deeper than before, spread the same quantity of compost, and plant, sow and seed down on top of the decomposing sod, as at first. By pursuing this course for a few years, you will probably succeed in forming a fertile surface soil, of good depth, well proportioned as to vegetable mould, essentially changed in texture and composition, and producing well,—particularly a fine quantity and quality of hay for winter forage.

It strikes me that your rotation on the other five lots is rather hard for the land. I will suggest that if your rotation were,—1st, corn, with manure—2d, wheat, or other grain, with grass seeds—and then three years grass, your crops would all be heavier, and your land would improve faster with the same manure. However, I merely suggest.

With regard to "Bommer's Method," there are various good ideas and hints advanced in it that might perhaps be beneficial to follow, where one's means for making manure in other ways are limited. But with your large amount of farm-stock, and your abundant supply of muck and other vegetable substances, all the necessary manure can be made, if a system of composting and saving all is adopted.

I have attempted to "*blaze* out a track," as you request; but in trying to follow it, you may perhaps find yourself in a condition somewhat like that of the traveller in a crooked and uncertain path, with trees imperfectly marked, and nightfall settling thickly around him. F. Holbrook. *Brattleboro, Vt.*

The Dignity and Relations of Agriculture.

Eds. Cultivator—In the brief history of the creation of man, given in the sacred Scriptures, we are informed that "God formed man of the dust of the ground," and that "every herb bearing seed, and every tree yielding fruit, was given to him for meat."

The study and practice of agriculture then, has this dignity; it is directly connected with the question of the origin and sustentation of the human frame, and the human race.

The earthy origin of that frame is directly proved by the easiest chemical analysis; and its continued sustentation from the same source, is a matter of common and familiar experience.

Accordingly, after man was created, he was placed in a garden. The Hebrew word "gan," means a *hedged place*, and is appropriately translated *garden*, i. e. a *guarded place*. The name of this garden was "Eden," (Hebrew "Aden,") literally *pleasure* or *loveliness*. Here then we have the proof of the security of man's divinely appointed home, and the indication of the beauty of its location and scenery. We are further informed that "God put him in the garden to dress it and to keep it." The Hebrew word "aubad," translated to *dress*, means to *work*, and is the root from which another word, ("ebed,") which means a *servant*, is derived. The Hebrew word shamar, translated to *keep*, means to *watch* as a "watchman." Hence then, we have this result: *the original designation of man, was to a life of labor and enterprise.* All this was arranged before sin had cursed the ground, and while man was in his primeval condition.

Need another word be said then, of the utility, dignity, and I had almost said, divinity of agriculture.

After this introduction, it may be well to say something of agriculture in its relations to *utility and science.*

I. General Relations of Agriculture.

1. *To the supply of Food, Raiment, Shelter, &c.*—All these are intimately connected with the cultivation of the soil.

Barbarous countries possess a very sparse population. Thus, Asiatic Russia has but two inhabitants to a square mile, the whole of Africa but five; while cultivated Europe has sixty-six. Again, half-civilized countries, as Equador and Venezuela, though possessed of a fine climate, and much fine soil, have a population of but two inhabitants to the square mile; while cultivated Belgium has 323, Holland, 254, and Great Britain, including Ireland, 223. It is true that these last countries are much the oldest, but this makes but a small part of the difference.

A people who live almost entirely on flesh, as most barbarous nations do, require a larger territory, even when it is cultivated, to support the same population, than when the inhabitants live partly or largely on vegetables. The reason is, that vegetable food, when eaten by men, in the first instance, contains more nutriment than the same food converted into meat.

The fact, and its causes, that cultivated lands afford better raiment and shelter than uncultivated, is too obvious to need illustration. The savage hunter and fisher lives precariously, whether you regard his food, raiment or shelter.

2. *To Health.*—Man, and perhaps all animated beings, need exercise to promote health. The labors of the agriculturist, taken as they are in the free open air, under the light of the sun, under the impulsive desire of food and gain, become more healthful, on the whole, than any other species of labor. This is evident in the superior vigor and longevity of an agricultural population, in all ages and nations. It should not be forgotten, also, that the varied scenery, labors, and interest of such a population, do much to cultivate that mental vivacity and quiet on which good health is based.

3. *To Mental Development.*—"Mens sana in sano corpore,"—i. e., a sound mind in a sound body, is an adage as old as it is true. A brisk, equable circulation of the blood, firm muscles, and steady nerves, are as important to the vigor and health of the mind, as of the body.

4. *To Moral Improvement.*—Whatever gives health to the body promotes mental calmness; whatever familiarizes man with the works of God, removes him from large associations and exciting scenes, pleasantly and usefully occupies his time and thoughts, and maintains the family state—*that* is favorable to moral improvement. All this is embraced in the pursuits of the tiller of the soil. Seldom,, among them, are we struck with the perpetration of dark crimes and high misdemeanors, or the exhibition of towering ambition and violent political animosities.

5. *To the cultivation of Social Sympathies.*—Such sympathies are the sweetest in life, and are the foundation of all that is interesting in the idea of home. When correctly cultivated, they form the highest degree of social harmony, comfort and improvement. Such results are no where so uniformly attained as in a rural population.

6. *Agriculture is the necessary calling of perhaps four-fifths of the population of every age and country.*—Food is the first want of man, the first object of wise and laborious pursuit. Except in

positions peculiarly favorable to commerce and manufactures, and the ready importation of bread, no community will embark largely in either of these pursuits, while a fertile soil and genial clime invite to agricultural pursuits. Many individuals too, in the fluctuations of business, or the pursuit of health, have recourse to it. An agricultural population is the main source, whence principally the *Mechanic* arts, the pursuits of *Merchandise* and *Commerce*, and the *learned professions*, draw fresh recruits to fill up the wasting ranks of each—a striking comment, alike on the sanitary influences of the one, and the destructive tendencies of the other.

In tracing out these relations I need not state them all, since, in a loose manner of speaking, every single science or calling is nearly or remotely related to every other. It is enough then, to state the more obvious of them. Nor is it needful here, that I should trace these relations with minute and scientific accuracy, as though writing a school book. It is enough to state a few obvious facts, leaving to books of science to fill up the blanks.

II. THE SCIENTIFIC RELATIONS OF AGRICULTURE.

1. *To Geometry.*—Whether the notion be true or false that this science rose in Egypt, among the farmers of the Nile, who, by its aid, revived the landmarks which the annual floods of that river had effaced, we need not stop to inquire. If it be a fable, it strikingly exhibits the impression of the ancients of the utility of this science to agriculture. In a new country, wild lands must be surveyed; and successive sales and subdivisions require resurveys in all lands.

Fields, also, need to be measured and laid out for the ordinary purposes of culture and embellishment. Some knowledge then, of the *rules*, if not of the *principles* of Geometry, are essential to the cultivator of the soil.

2. *To Botany.*—This science, whether contemplating the systematic arrangement of plants, or the mutual relations and uses of their parts, is intimately connected with agriculture. Indeed, some knowledge of this science is implied in the rudest condition of this pursuit. The habits, structure and qualities of plants, the soil and climate best adapted to them, the best mode of culture, and the power of that culture to change and improve them, are all questions in which the farmer is interested. He learns that the grasses, what are often termed English grains, and potatoes, require only moderate heat and light, combined with a due degree of moisture. So also of the apple, pear and plum. On the other hand, Indian corn, pumpkins, squashes, melons, tomatoes, cucumbers, and other tropical plants, require the highest degree of heat and light that our climate usually exhibits, with a less degree of moisture than the preceding class. The same remark applies to such fruits as peaches, grapes, apricots, and nectarines. Not less must the farmer understand the power of originating new plants by the union of old and nearly related varieties. But enough here on a topic that readily expands into volumes.

3. *To Medicine.*—The analysis of plants with reference to their qualities of nutrition, stimulation, &c., and of minerals constituting the natural or needful basis of all productive soils, naturally also developes their *medical* qualities. Hence it will be found, to a considerable extent, that the sciences of agriculture and medicine advance with equal pace.

4. *To Chemistry.*—This science teaches us that the whole material world with which we are acquainted, is made up of varied combinations of from 56 to 60 simple substances; and that about 12 or more of these enter, more or less commonly, into the constitution of those vegetables with which the farmer is acquainted, as well as into the constitution of all those animals which feed on those plants; that what thus is found in the animal and the plant must previously have existed in the soil, and thus should be considered a necessary constituent of all soils adapted to the growth of such vegetables.

The bulk of all vegetable matter is composed of three elements, carbon, oxygen, hydrogen—in short charcoal and water, to which is occasionally added a little nitrogen. Combined with these, but usually in comparatively small proportions, are phosphorus, sulphur, iron, silica, potash, lime, allumina, manganese, and, it may be, a few others. Some of these last, as phosphorus, potash, silex and lime, are indispensible to almost every plant, sometimes to the herbage, at others to the seed, and often to both. Other mineral substances may be present in a soil, and, either intrinsically, or by the degree in which they exist, may prove poisonous to vegetation; such are lead, arsenic, some forms of iron, magnesia, copper, &c.

Chemistry will teach the farmer the influence of heat in the production of the peculiar secretions of tropical plants, and hence the relation between a hot and dry summer, and their valuable qualities. The effect of electricity, also, although not yet very well defined, will be referred to this same science. So also, the system of manuring, as intended to add to the soil, substances indispensible to the growth of plants, but absent from that soil, or present in tor small a proportion, is explicable only by the science of chemistry. The philosophy of plowing, as tending to break up the soil, and bring its minute particles into an available condition, as well as to open it to the influences of heat, light and moisture, is also chemical. The germination of the seed in the soil, the growth of the plant, and the maturity of the seed or fruit, are all processes which are purely chemical.

But the full illustration of this branch of the subject, as in the parallel case of Botany, would be the work of volumes.

5. *To Mineralogy and Geology.*—All the mineral elements of plants being derived from the soil, it becomes a question of importance to ascertain their condition in that soil, and also their source. Mineralogy teaches us the rocky origin of all such elements; and investigates their state of combination with other, and often useless or noxious substances; and also the mode of their development, by the natural agencies of water, frost and chemical changes, or by such artificial means as science may indicate. This science further developes the existence of some mineral elements, such as some of the forms of lime and phosphorus, that are the remains of a former condition of the world, when animated by a very different class of animals from those that now inhabit it. Hence, to a great degree, the mineralogical structure of a soil, settles the question of its adaptation and fertility. Soils, especially rich in phosphorus, lime, potash, and allumina, may often be cropped for a long time with little regard to alternation or stint.

Again, as all minerals are originally derived from those vast rocky layers of which the earth was once constituted, so the geological indications of any country will go far towards settling the character of all those surrounding soils that were constituted by their disintegration.

6. *To Astronomy.*—The sun is the great and obvious source of both *light* and *heat* to the world.

The seasons of the year and the progress of vegetation depend on the degree of these indispensible stimulants. The general angle of incidence, with which light strikes the earth, settles the question of climate, in all its gradations, from tropical to polar. Ignorance and superstition have attributed important influences on the weather and the seasons, as well as on other human interests, to the moon, stars, and signs of the zodiac. But science does not confirm these opinions, but shows them to be baseless and harmful.

7. *To Zoology.*—With one class of animals, the farmer is concerned for the purposes of draught, food and clothing. They are the horse, cow, swine, sheep, goat, goose, hen, silkworm, &c.

With another class he associates an interest, as they are his auxiliaries in repelling the depredations of others that are noxious. They are such as the dog, the cat, various sorts of birds, and some classes of insects.

A third class, mostly birds and insects, are familiar to him as destructive to the interests of the field crop, the garden and the orchard.

With the forms, habits, &c., of each, the cultivator should be acquainted, that he may know how to avail himself of the aid of the useful, as well as to repel the encroachments of the mischievous.

An enlightened and discriminating view of this subject has corrected many popular errors. Many animals, once considered useless, and perhaps repulsive in form and habits, are now found to be peaceful and important auxiliaries to the gardener and farmer. Thus the toad, so unshapely to the eye, and once thought worthy to be a sort of personation of the evil one, is now known, not only to be not poisonous, but eminently destructive of innumerable insects. So also, many birds, once hunted with avidity, on account of an occasional injury to the field or garden, are now ascertained to accomplish a large balance of good.

8. *To Mechanics.*—The farmer needs carriages, various tools, especially for cultivation and seed sowing, reaping, excavation, &c.

In the construction of these, reference should be had to the persons using them, and the quality of the soil to be cultivated, and the facility with which they may be used, and their durability. In nothing does the enlightened agriculture of some nations appear more than in the wisdom of their machinery.

9. *To Commerce.*—The supply of agricultural productions, in an enlightened community in a genial clime and upon a fertile soil, will be limited only by the demand. This demand will depend on a well regulated commerce. A surplus of productions will itself be likely to originate commercial enterprises and regulations. Hence will result a wise appropriation of the soil in any country, guided by its natural powers, and the foreign demand.

10. *To Artistic Skill.*—Suppose the farmer to be instructed intellectually in all the facts and sciences of his calling, he yet needs wisdom to concentrate all upon his appropriate labors, that they may be performed with appropriate skill, at the proper time, and result ordinarily in abundant and cheap productions, appropriate to the soil and the demands of commerce. Such results will ordinarily follow only where the cultivator has passed through a leisure apprenticeship of principles and manipulations; the one acquired in the field, the other in the study or the schools, and both pursued with a just appreciation of the utility and dignity of agriculture.

OBSERVATIONS.

Let the Farmer seek higher qualifications.—Perhaps some, after contemplating the preceding outline of relations, may be disposed to say that "such and such persons, in the past and present generation, *have been* and *are* good farmers, without all this parade of education." I answer, that in proportion to their skill and success, they had, at least practically, some of the advantages of such an education, advantages gradually acquired from experience, observation and reading. And who shall say how much more successful they might have been under higher advantages from these sources. Again, is it not painfully evident that the want of knowledge and skill are a great drawback on the profitableness of much of the farming of the present day? How much loss results from the want of well-constructed tools, unwise plowing, ignorance of the proper rotation of crops, the just adaptation of crops to particular soils, badly selected flocks and herds, waste of food in fattening animals, bad selections of fruits, &c. Now much of this loss would be prevented by a wise agricultural education, the cost of which, to a young man, would not be equal to the loss of a single year, arising from the mismanagement of his farm.

Another reader of these observations, who admits them in all their force, will exclaim, "how am I, a poor youth, ever to become a farmer if such be the needful qualifications?" Here you point out ten scientific relations of agriculture, each one of which would require at least a year of hard study in the attainment of its rudiments, a thing for which ninety-nine in the hundred of young men have neither money nor time." I answer, there are various stages in the path of improvement. Many a young man, who cannot get a collegiate education, nor spend two or three years at an agricultural school, may yet spend a year or two with some farmer of enlightened mind, and improved modes of culture. And if a poor young man cannot do even that, the simple fact, that his mind is awakened to a knowledge of his own ignorance, and the existence of sources of light, will have the effect to arouse all his powers of attainment, so that his eye, his ear, and his mouth, are all henceforth to be opened in the eager pursuit of appropriate knowledge. The spell of traditionary usage is broken, and he at once thrown into the path of certain, though it may be slow, improvement. Henceforth, he will seek new books appropriate to his calling; he will watch experiments in his own labors, and those of his neighbors. Thus, by the time he reaches middle age, he will have made the most desirable attainments in his calling. Others, meanwhile, with more means and higher advantages, will have become fitted to be *Professors* in the science of agriculture.

Society will thus, on this subject, present a beautiful climax of attainment, from the first lessons and labors of the ardent youth to the sublime theories, and startling results, of the doctors of agricultural philosophy. Thus, the science of Agriculture, so fundamental to all the interests of human society, and so intimately related to almost all the other sciences, will no longer bear the reproach of being conducted by machines as mindless as the patient ox or "iron horse" that impels his heavy machinery, but the agriculturist will be classed among the most enlightened students of the works of God, and be worthy to be considered the firmest pillar in the church and the state.

At the same time the equipoise between rural and literary pursuits will be maintained, and men will no longer forsake the plow emulous of fame in the supposed elevated paths of science.

2. *Let the Farmer feel an established conviction of the Dignity of his calling.*—That calling is first in historic origin, first in necessity, first in comfort,

first in varied qualifications when wisely pursued; and shall the laborer in the field look on his hard hand, brown skin, and well developed muscles—his plain, strong, but comfortable clothing, and dwelling, and equipage, as signs of inferiority and meanness? His is health, strength, contentment and independence; his is a central and fundamental position in society, and shall he cower? The humble and learned divine, the skillful and humane physician, the acute but honest lawyer, the enlightened teacher of science, the keen but honorable merchant, and skillful mechanic, are all honorable men, whose virtues and agencies are indispensible to the best good of society; and so are their wives, their sons, and their daughters, honorable; but not exclusively so; nor in a higher degree than the farmer who honors his calling. If the tiller of the soil has heretofore enjoyed less honor than the indispensibleness of his calling naturally accorded him, it was because he brought fewer of the lights of science to bear on his toils than naturally clustered around them.

Now, that science is simplified and made accessible to all; let the farmer concentrate its rays upon the dark bosom of the earth until it is radiant with the light of philosophy, while it fills his "basket" and his "store" with its rich and varied productions, and teaches him the wisdom, power and grace of God. C. E. G. *Utica, N. Y.*

The Veterinary Department.

Bone Disorder in Cows.

It has often been mentioned that in some parts of Europe, where land has been long pastured by milch cows, the animals are subject to a weakness of the bones, a disease which has been attributed to the exhaustion of the phosphate of lime in the soil. We have also mentioned that in the older settled parts of our own country, the same disease had made its appearance. The application of bones as manure to the soil, or the phosphate of lime as it is found in some rocks, has been found to restore the necessary quality in the grass, and the animals become healthy. It appears, also, that "bone meal" has been given to the cows with good success.

Mr. WM. R. PUTNAM of North Danvers, Mass., gives some valuable ideas on this subject, in a communication to the *N. E. Farmer*. He says—"In a former communication I attempted to show that there was such a disease, caused by the want of proper food. It will be my object, at this time, to show why it may exist in some sections of the country, and not in others. Those farmers, in this town, whose cows have been affected by it, have not been in the habit of raising stock, but they have sold their calves to the butcher. The farmer who keeps ten cows, usually sells annually eight calves. These at five weeks old, will weigh one hundred and twenty-five pounds each. Where this course has been pursued for fifty years, there have been taken from the soil twenty-five tons of animal matter, and but small return made to it by the manure voided by calves at this age. Now it will be obvious to every one that this will sooner exhaust the animal matter from the soil, than where they raise stock; for the ox that is kept until he weighs as much as the eight calves, will have voided a larger amount of manure.

"It is the practice of most farmers here, to purchase heifers that are driven from New-Hampshire, Maine, and Vermont, in the autumn, before they are three years old, which are expected to calve in the spring. This is a time when they will require the largest amount of animal matter to promote their own growth, and furnish nutriment for their offspring. It is these young cows that are most likely to be affected by this disease. On Mr. Preston's farm, alluded to in my last communication, for fifteen years before they began to use bone-meal, they were not able to keep any of these until they were six years old. They became so stiff and feeble that they were obliged to dry them. Many of them were driven to New-Hampshire to a pasture that has always been used for fattening cattle. There they fatted as well as cows that had never been diseased.

"I will give my reason why I think this disease has not shown itself any more in Hamilton; yet I think I have seen some signs of it there. When I see the boards about the cow-yard look as if the cows had been trying to eat them up, it is a sure sign of one form of this disease. The farmers in that town are in the habit of using a considerable quantity of hay from the salt marshes of Ipswich and Essex. I have never seen any analysis of this grass; but, from the large quantity of lime in the shells of clams and muscles, found about these marshes, the inference is that it contains a large amount of phosphate of lime.

"The pastures there may be as much exhausted of animal matter as here; yet if the cow has had a full supply of it during the winter, she will be able to go through the summer without showing the want of it. It is the opinion of some there, that the manure made from salt hay is better than that made when the cattle are fed upon English hay. The inference from this is, that it furnishes something to the soil, which the other does not. It is the practice of many there to keep a portion of their best salt hay until the time the cows go to pasture. They will often eat it then, when they will not eat the best of English hay.

"It may not be, that those farms which have been cultivated the longest are most exhausted of animal matter. It depends more upon the manner of cultivation than upon the time. Perhaps we may apply the same principle to feeding milch cows, that we act upon in feeding hens. When we see them trying to eat the lime from the walls of their coop, we think they need it to form the shell of their eggs, and we give it to them in oyster-shells, old mortar, and bones. So when we see a cow trying to eat old bones, we should think that she needs something of this sort to furnish milk.

"In Dr. Dana's *Muck Manual*, it is stated that the liquid evacuation of the cow contains a considerable quantity of phosphate of lime. When no attention is paid to preserving this, and the solid excrements are exposed to the air, the most volatile and valuable parts are lost. From this we may infer that where there is a barn cellar for preserving the manure, the cows will not be so likely to have this disease, and experience will warrant the conclusion. It is there stated, also, that peat ashes abound in phosphate of lime. By carting muck to our barn-cellars, to be wet by the urine of the cows, we not only increase our manure, but it will abound in that particular ingredient which the soil needs to produce proper food for milch cows."

Blind Teeth in Horses.

EDS. CULTIVATOR—In confirmation of Mr. Little's statement in the February number of *The Cultivator*, concerning wolf or blind teeth in horses, I would add, that in the fall of 1849, I purchased a horse five years old. When delivered to me, after a long journey, I discovered a dullness of the eyes, accompanied with a slight weeping or running. Upon examination, the wolf-teeth were found in front of the grinders. The horse's eyes continued to grow worse until I had the wolf-teeth drawn.—Immediately after, the eyes improved, and soon became bright and perfectly sound, and still continue so. E. *Bridgton, N. J., Feb.* 23, 1850.

The Horticultural Department.

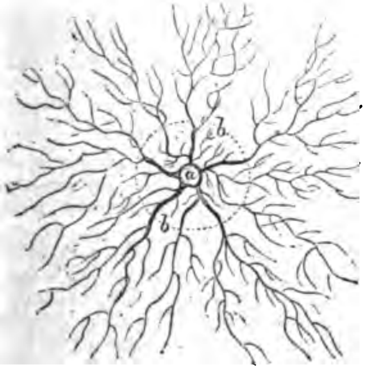
CONDUCTED BY J. J. THOMAS.

Transplanting.

Much has been said on this very important art of altering the locality of a growing tree; but while so many trees are lost, and a still larger number stopped in growth by the operation, the subject cannot be regarded as done with.

All the different parts of this work, come under one general requisite for success—which is, *to take the tree up and set it out again just as it previously stood*, with as little violence to the different parts as practicable.

1. *One of the most obvious points, is to take up the roots as nearly whole or uninjured as may be done.* Instead of cutting off the roots close to the tree, the spade must be set far back from it; and if the tree be of such sort as has tough roots, it should be *slowly drawn* up by the strength of two or three men; but if the roots are tender, the tree must be *lifted* out, earth and all, and the earth removed afterwards by shaking. The roots of a young tree usually extend in a circle equal in breadth to its height. In the annexed figure, where *a* is the trunk of the tree, *b b* the circle of roots cut off by the spade in a hasty or careless removal, the great majority of the roots left in the soil outside of this circle, may be at once perceived.



But as about one-half of the roots must be cut off, even in a careful lifting of a good sized tree, the top must be lightened with the knife in a corresponding proportion. From apple trees, one half of last year's shoots should be cut off, and two-thirds or three-quarters from peach trees. If the head is too compact, this proportion of the shoots may be cut entirely out; but if the head is thin, one-half to three-quarters of *each shoot* may be cut. So great is the advantage of thus rendering the top lighter, that no person who has once given it a fair trial, can easily be induced ever to omit it.

2. *A second very essential requisite, is to keep the roots moist while out of the ground.* For this reason it is very useful to plunge them in a bed of soft mud, made on purpose, which coats over the roots and preserves the moisture for a long time on their surface, until they can be again set in earth, or packed in wet moss for sending long distances. Trees received from a nursery should always be *immediately* buried at the roots in mellow soil, so that one by one can be taken out fresh and moist as wanted.

Careless operators often take up trees and suffer them to remain more or less dried for whole days together; all the smaller fibres are thus killed; and the erroneous notion has hence arisen, that the smaller fibres are of no value.

3. *A third requisite is to replace the earth compactly among the roots, leaving no interstices.* If the earth is hastily and carelessly thrown in, vacancies will be left beneath the tree, which will cause great injury, if not death. To do the work well, the earth must be fine, and gradually sifted in from the shovel, spreading out all the roots with the fingers as the work proceeds. Dashing in a few quarts of water before the hole is filled, settles the earth well against all the roots, the surrounding earth soon absorbing the superabundant moisture, and leaving the tree firm. This close contact of soil, it will be observed, is assisted by the mudding of the roots, already described.

There are several other points of minor importance, or occasionally very necessary, as paring off all bruised parts of the roots before re-setting; staking up the stem or throwing a bank of earth up around it, to prevent shaking about by the wind; avoiding a water-soaked soil; planting no deeper than the tree stood before,—or even placing the tree on the surface, and embanking upon it, if the soil be wet; and keeping the *stem* and *branches* moist, but not watering the roots, if the tree is too much dried, till the leaves appear.

The subsequent success and vigorous growth of the tree, depend on *three requisites*. 1. First and most important, is a fertile soil. This may be secured for the tree while young, by digging large holes, and filling them (except in immediate contact with the roots) with very rich soil, or with short manure well mixed with soil. Young apple trees, as large as a riding stick, with holes seven feet in diameter thus filled, have borne a bushel of fruit each the *fifth summer*. By the time the roots have run between these holes, the rest of the ground may have been enriched and deepened by manuring and plowing. 2. A second requisite, scarcely less essential, and indeed often more so with peach and some other trees, is to keep the soil *mellow and clean* at all times of the season. Even a crop of potatoes or ruta bagas lessen the growth of the trees, although *immeasurably* less so than sown crops or grass. 3. A third requisite is *mulching* during dry seasons. This consists merely in covering the ground 6 inches thick with litter, leaves, or similar substances, for *several feet* each way round the tree, during the hot and dry part of the year. It obviates watering, and assists to an almost incredible degree, the growth of the tree.

Street Shade Trees.

We would briefly remind those who can feel the difference between bare lines of buildings, and dry, glaring, and dusty streets, on the one hand,—and the softness, luxuriance, the interminable beauty of masses of green foliage, and the refreshing shade of our finest forest trees planted in villages and by road-sides, on the other,—we would remind these that the time has now come for action—no delay must be made, if another whole year is too valuable to be lost.

Most of the directions, given in the preceding article on transplanting fruit trees, are equally applicable to shade trees. But there is one all essential part of the work, without which failure is about as certain as the course of water down hill, and that is, the trees after being set out must be carefully protected from the rubbing of street animals. We have seen trees five inches through, which had been moved with nearly a ton of earth on the roots, all destroyed the second year by the rubbing of pigs and cattle. The best, most substantial, and most durable protection, consists of three posts in the form of an equilateral triangle, enclosing the tree, with horizontal cross pieces, or boards securely nailed to the posts. This frame will besides prevent those, who think a tree is a very handy object to hitch a horse to, from spoiling it by allowing the horse to gnaw the bark. "You will be exceedingly vexed," says a late writer, in allusion to such a disaster, "but will be *consoled* by the assurance that the owner never knew his horse to do so before—and you will wish him and his horse at —— the end of their journey!"

A few brief directions for planting shade trees, may be summed up as follows:—

1. Dig the hole before the tree is taken up, for being large, its roots cannot be so easily protected from dying as a smaller tree, and it should therefore be out of the ground as short a period as possible.

2. If the trees are two to three inches in diameter, the holes must not be less than six feet in diameter, and a foot and a-half deep, and the roots of the tree taken up, of nearly corresponding size.

3. Cut round the tree two and a-half or three feet from the stem, and lift it out without tearing the roots or bruising the stem—not after the recommendation published some years ago, as a *very careful* mode of removing, "cutting the roots with an axe, and dragging the trees out with a yoke of oxen."

4. Cut off or thin out one-half or three-fourths of the top, having an eye to the future shape of the tree. This lessens the number of leaves, the draught is less severe on the roots, the fewer shoots grow more rapidly and the wind has less power on the tree.

5. Plant the tree no deeper than before; as some one quaintly remarks, "nature has attended to the growing of trees some six thousand years, and cannot in this particular be improved upon."

6. As soon as the tree is set, then immediately erect the tripod-protection, already described.

7. Cover the ground several inches deep with litter, in a circle six feet in diameter. The soil cannot be easily cultivated, and this mulching is the best substitute.

Trees treated according to these rules, will begin to grow immediately, and will form handsome, rich, dense masses of foliage, in less time than those which are carelessly torn from the earth and hastily planted like a fence-post, can recover from the violence which they have received. It is better to plant ten trees well, than twenty or thirty badly.

Trees which have grown in the open ground are hardier and far better than those taken from the forest. Thick woods afford almost the protection of a green house; and trees removed from them and set out in open air often perish solely in consequence of their tenderness. Those from borders of swamps are often better than those from upland, the soft mucky soil more perfectly admitting the entire removal of the roots. The dissimilarity of soil where they are placed, rarely proves of any detriment. As a general rule, such trees have succeeded much the best with us. This is also, particularly the case with *evergreens*, which always need a large *cake* of earth to be removed entire upon the roots. This cake should always be large enough to hold the tree stiff against the wind without any staking. *When this has been done, we have never lost a single evergreen tree by transplanting.* In the borders of swamps, where the muck is shallow on a hard-pan, the roots of evergreen trees usually form a thick mat of roots, all near the surface; cutting round one with a spade, allows the tree to be taken up with great ease, the whole mass of the roots and muck *peeling* readily off from the hard-pan.

Inquiries Answered.

AGE OF TRANSPLANTED PEACH TREES.

"Will Peach Trees, one year from the bud, bear as soon as those two years from the bud?" *A. P. Clarkson, N. Y.*

According to the experiments we have made, peach trees of the usual size at two years, well treated, will come into bearing decidedly sooner than one-year trees. Such trees need the shortening-in process, as an indispensible requisite to complete success, at the time they are set out. Treated in the best manner, and with the ground kept clear and mellow afterwards, such trees not unfrequently produce from two to three pecks of fruit the third summer.

SHORTENING-IN CHERRIES.

"Will it be a good plan to shorten-in my young cherry trees, which have become rather top-heavy by their vigorous growth, some shoots having made two and a-half feet the past season?" *J. T. Rome, N. Y.*

No harm can result in cutting back the young shoots, to render the tree less top-heavy; but, unless the head is quite thinly formed, it may be advisable wherever a cut is made, to take off the entire shoot, which would in such case give the head a neater and cleaner appearance. It scarcely ever becomes necessary to prune the head of a cherry tree to let in the light, which is so essential for the peach.

ROOT GRAFTING.

"In root-grafting, how long must the scion be, and how far above ground when set out—must the ground be packed around it? Is paper as good as muslin for the plasters?" *D. D. D. Ilion, N. Y.*

The graft should be about three or four inches long, and the tip must be just even with the surface of the ground, which prevents the danger of its becoming too much dried. The earth should be closely packed around it for the same purpose. More care, however, is usually needed in packing well about the root below, careless workmen usually leaving interstices. A deep, inverted sod, where the soil is sufficiently fertile, is much better for setting out root-grafts than other ground, being attended with fewer losses. Muslin is better than paper, as usually applied;—but if thin, tough paper is selected, and the wax applied copiously, it is fully equal to muslin.

GRAFTING WAX.

"I notice in the *American Fruit Culturist*, that a *cheap* grafting wax is recommended composed of 6 parts of beeswax, 1 of rosin and 1 of linseed oil. As beeswax is rather high priced, is there not some mistake in this?" *P. Ontario Co. N. Y.*

This mistake escaped correction in consequence of the distance of the author from the printing office. It should be 6 parts of rosin, 1 of beeswax, and 1 of oil.

MARKET APPLES.

"Do you think the Tewksbury Blush would be profitable planted largely for shipping? What is the quality of the Northern Spy as compared with Rawle's Jannet? The latter is a general favorite here." *H. A. Burlington, Iowa.*

The Tewksbury Blush is valuable for being a very productive apple, and a long keeper—but it is not of the highest quality, and is too small to become extensively popular. It is hard as yet to compare the Northern Spy with Rawle's Jannet. The Jannet has been but little proved side by side with the Spy, the former having scarcely ever fruited in New-York, (where the seasons are probably too short for it,) and the latter having never fruited at the west. It is absolutely essential to test every thing of the sort by actual trial. The Spy comes slowly into bearing, which is the chief reason its adaptation to Western New-York has not been ascertained. It is a more showy apple than the Jannet.

DISTANCE OF PEACH TREES.

"Will peach trees set *ten* feet apart, do as well as at *twelve* feet?" *A. P.*

Peach trees which are not shortened-in, require a distance of twenty feet; but by keeping the heads compact, they will not interfere with each other at twelve feet distance. Ten feet would be rather too close planting. By planting near, we get a greater number of trees to an acre, and consequently a larger crop of peaches from an acre. A distance of 12 feet will allow three hundred trees per acre; twenty feet only a little more than one hundred. The ground should be well cultivated in any case, and the nearer distance thus becomes the more economical. The more numerous the trees, however, the more rapidly the soil is exhausted. Hence, heavier manuring becomes requisite.

The objection that the trees are kept too small by shortening-in the heads, is not valid, because the large unpruned heads only bear fruit at the ends of the branches.

Productive Strawberries.

A correspondent of the *Michigan Farmer*, who has raised 30 bushels of strawberries on one-third of an acre, has been most successful with Large Early Scarlet, Hovey's Seedling, Boston Pine, and Hudson's Bay. The Large Early Scarlet produces double the fruit of any other sort, continuing a month. Hovey's Seedling yields a fair crop, and much larger fruit than any other, having obtained single specimens measuring 4¾ inches in circumference.

The land is trenched 18 inches or 2 feet deep, and enriched with a mixture of well-rotted manure and mould from the woods—the rows are 2 feet apart, and every third year, the runners are allowed to occupy the ground between them, and the old rows are spaded in.

Large Crop of Water Melons.

Late in May I turned over a piece of green sward that had been in grass for mowing until it was run out. On the 30th of May, 1849, I planted upon a portion of it one hundred hills of water melons, without any manure, the surface having been slightly mellowed by the harrow. They grew very slowly during the six weeks drouth that occurred between June 28th and August 9th, during which they were hoed three times, watered frequently with fresh water, and twice with soap suds. After the August rains, they grew with great rapidity. I gathered in September, (beginning on the 7th, fifteen weeks from planting,) six hundred and fifteen melons, besides which, numbers that were rotten or very small, were not counted. About one-fifth of the whole crop were decayed at the heart, a consequence, I suppose, of sudden chills, a liability which is the main cause of disease in all the tropical plants which we cultivate. The quality of these melons was very fine, but the sale was bad, partly from the lateness of the crop, and partly from the lingering fear of the cholera. They were mostly from about eight to sixteen pounds weight, though many were heavier. Another plat of water melons, forwarded in hot beds, and set in richer soil, were much larger and earlier, but not better than these. The varieties I cultivated were—the *Black Spanish*, the *Carolina Green*, the *White Cored*, and *Imperial*.

A long hot season is indispensible for water melons, especially if raised in open culture. This we had this year. The other main favorable circumstance was the fresh green sward.

Test of the Ripeness of a Water Melon.—A water melon that has just attained its full growth is solid, and heavier than the same melon when fit for the table. Its subsequent maturity consists *first* in a *chemical* change of its juices to a luscious sweetness, and *secondly* in a *mechanical* change, i. e., a drying out of the centre so that the melon becomes hollow. This last change does not take place when the fruit is picked prematurely, or when it ripens late.

We are now prepared to understand the test of maturity. If the melon be moderately pressed between the hands, or better between the hands and knees, it will, if ripe, yield a slight cracking sensation, both to the feeling and the ear. This is in consequence of the yielding of the hollow sides to the pressure. Although an experienced eye can judge, with some degree of correctness, of the condition of a water melon, I know of no *certain test* but the foregoing. C. E. G. *Utica.*

Early Vegetables.

Hardy vegetables may be planted as early in April as the ground will answer to work. Radishes, lettuce, cabbages, turneps, potatoes, peas, &c., for early use, may be planted on warm soils almost as soon as the frost is out. If very severe cold occurs after the plants are up, some straw or hemlock boughs may be spread over them, which will be a sufficient protection, and may be readily removed when no longer wanted.

The best early varieties of peas are the Prince Albert, Early Kent, Early June (or Washington,) and the Cedo Nulli. The latter is a dwarf variety, requiring but little space, is prolific, and comes to maturity in about as short a time as the Prince Albert. The Early Kent is very popular in this neighborhood, where it has been raised for a few seasons. A good mode of raising early peas was described in our last volume, page 93.

A good mode of raising early potatoes is to sprout the tubers in warm horse-dung. They may be placed in layers with the manure, either on the ground or in a box or crate. If the potatoes, when packed for sprouting, are laid on small pieces of tough sods, the grass side downwards, they may be planted with the sods, without breaking the sprouts or roots, which will greatly facilitate their growth. They should not be started too much before planting, as it is difficult to prevent the sprouts from being bruised or injured, if they are much more than an inch long. If planted very early, they should be put on a warm and rather dry soil, to avoid the liability of their rotting, if the weather is moist and cool.

There are several kinds of early potatoes, but no one kind has a universal preference. There is much confusion in regard to the names of varieties. Sometimes several varieties are confounded under one name; but a more common difficulty is the attachment of several names to one variety. There are several kinds, differing considerably in appearance and quality, which pass under the name of Early June. Some are round, others oblong; some yellow inside, others white. A kind introduced from England, and there known as Shaw's Early or Early Shaws, is here variously called by those names, as well as Early June, Mountain June, Fort potato, &c. The true sort is white, both inside and out, roundish in form, tending to become oblong on rich soil, or when it reaches an unusual size. It is one of the best kinds within our acquaintance. There are but few earlier kinds, and those few are poor yielders, and not superior to the Shaws in quality. They frequently grow to a size fit for eating, in eight weeks from the time of planting. When cooked before they are ripe, or while growing, their quality is superior to most kinds in the same stage. They are hardy, yield well, and keep well.

Twenty-five Hardy Shrubs.

Frequent inquiries are made by those but little acquainted with ornamental shrubs, for the names of some of the most desirable and ornamental as well as the most hardy species. Among the hundreds which are offered for sale in nurseries, the following list has been given by A. J. Downing, and may be of service to those now about to commence the improvement of their homes by ornamental planting:—

The most desirable 25 hardy deciduous shrubs, furnishing a succession of flowers or ornamental fruit from March to November:

Pink Mezereon,
Japan Quince, white and scarlet,
Dwarf double-flowering Almond,
Double purple Tree Pæony,
White Persian Lilac,
Chinese White Magnolia,
Soulange's Magnolia,
Sweet-scented Magnolia, (M. glauca,)
White Fringe-Tree,
Garland Deutzia, (*D. scabra*,)
Large-flowered Syringo,
Broad-leaved Laburnum,
Rose Acacia,
Tartarian Tree-honeysuckle, red and white,
Double white Hawthorn,
Double pink Hawthorn,
Sweet Scented Shrub,
Dwarf White Horsechestnut,
Fragrant Clethra,
Oak-leaved Hydrangea,
Venetian Sumac (or Purple Fringe,)
Purple Burning Bush, (*Euonymus*,)
Buffalo Berry.

To the preceding might be added, as superior to some of them, the Siberian Lilac, the Althea or Hibiscus syriacus, and, although so common, the Snowball. Nor should some of the Roses be forgotten.

The following are given as some of the *finest hardy climbing shrubs*:—

Large-flowering trumpet creeper, [rather tender,] Queen of the Prairies Rose, Chinese Wistaria, Sweet-scented Clematis, Double purple Clematis, Monthly Fragrant Honeysuckle, Chinese Twining Honeysuckle, Yellow Trumpet Honeysuckle. [To which the Scarlet Trumpet Honeysuckle should by all means be added.]

Horticultural Miscellanies.

Mostly copied or condensed from the Proceedings of the North American Pomological Convention, 1849.

CLIMATE OF ILLINOIS.—In northern Illinois, the winters are often very severe, the thermometer sinking to 20 degrees below zero; while in the southern part of the State, the cotton plant matures a partial crop, and the indigenous cane, though dwarfish, survives the winter.

APPLES OF NORTHERN ILLINOIS.—Dr. Kennicott gives in substance the following:—

Yellow Harvest—large, usually fair, excellent—young trees shy bearers.

Keswick Codlin—not over good; the most early, uniform and enormous bearer.

Rambo—receives the most praise further south.

Oslin, Newtown Pippin, Roxbury Russet,—"miserably unproductive here."

Rhode Island Greening—shy bearer—also cracking at the collar of the nursery tree.

Rawle's Jannett—all speak highly of this for Illinois.

Limber Twig—highly commended in southern Illinois.

White and *Yellow Bellflower*—"perfectly at home on our rich prairie soil."

Carthouse or Red Romanite—one of the most profitable market varieties, from one end of the Mississippi to the other.

English or Poughkeepsie Russet—has produced the largest crops of all keeping apples,—six bushels having been produced on one tree the sixth year from planting out. The same was obtained from a Keswick Codlin. In planting, the holes were five feet across, 18 inches deep, the soil mixed with a little manure, good cultivation given, and the stems washed with soap-suds.

Fulton Apple—an Illinois seedling,—the original tree being 19 years old, a foot in diameter, 25 feet high, and 28 across the top.

STRAWBERRIES FOR MARKET.—F. R. Elliott, of Cleveland, Ohio, states the following experiment:

Upon one-fourth of an acre, light loamy sand, rather poor, not highly manured, planted in 1846, the variety known as Willey, in rows 2 feet apart, and plants one foot in the row.

In 1847, 1345 quarts from this, sold for $145 in market.

In 1848, 615 quarts sold for $63.35. These were both exclusive of those used in a family of twelve persons.

Estimate of cost:—

Use of ¼ acre of land for 3 years,...............		$6 00
Planting and hoeing first year,...............		4 00
do do second year,...............		3 00
do do third year,...............		3 00
Gathering first year,...............		20 00
do second year,...............		12 00
		$48 00
Receipts, first year, cash,...............	$140 00	
do second year, cash,...........	63 35	
do say for family use,...........	10 00	
		$213 35
Nett profit,...............		$165 35

[The Willey as a very productive variety, thought to be about equally so with Dundee and Burr's old Seedling.]

Peaches in Illinois.—Dr. Kennicott (19 miles from Chicago) says that fine varieties sell for $1.50 to $2.50 at the orchard, and $3.50 to $4.00 taken to market. One man some 30 miles west of Chicago, sold $2,000 worth of peaches in 1847 from one orchard.

The trees bear young—sometimes the second year—often the third—but usuallly die in 6 or 7 years.

Grape Cuttings.—The *Mich. Farmer* states that Elijah Buck, a successful cultivator, has met with uniform failure in raising grapes from cuttings in the usual way of placing them nearly perpendicular or obliquely in the soil, not one in ten thus treated ever showing signs of growth. A different mode was afterwards adopted, by placing the cutting horizontally just beneath the surface. Not one in fifty failed.

Hardy Grapes in Maine.—Alex. Johnston, of Wiscasset, states in *Hovey's Magazine*, that the Isabella is the only variety of American grapes that will succeed in that severe climate. Even that requires ample protection in winter. One vine, three and a-half inches in diameter at the ground, and which had borne finely, had been killed by leaving it exposed. The Catawba is unfitted for that region.

Transplanting Large Trees with Balls.—The same correspondent describes a mode of removing large evergreen trees with frozen balls of earth, requiring far less labor than the usual way of cutting round them through the hard frozen ground. The ground at the roots is covered in winter a foot deep with evergreen boughs, which keep it from thawing so soon in the spring, as the surrounding earth. The tree is then easily removed, roots, frost and all.

Apple Trees in Illinois.—The fertile soil, hot summers, and severe winters of a large portion of the western states, render the culture of some kinds of fruit more difficult than at the east. It appears to be well established that apple trees budded and grafted on strong, full sized, entire roots, are more hardy than those raised by root-grafting as commonly practiced. Prof. Turner, of Illinois College, states in the Horticulturist, that 60 *root-grafted trees*, 100 *grafted on full seedling roots*, and 60 *budded near the ground*, were transplanted under precisely similar circumstances in similar soil. In the following year, only *six* root-grafted trees were alive; on the other hand, all the budded trees but six were living, as well as all the trees grafted on whole seedling roots.

New Names to old Fruits.—The long time required to prove the correctness of a fruit by coming into bearing, renders the public peculiarly liable to imposition from venders. Every year exposes some great humbug. For some years past, a grape has been sold very extensively, at a guinea a plant, under the name of *Josling's St. Albans*. Robert Thompson, the greatest English pomologist, highly commended it. Josling is said to have obtained by its sale more than ten thousand dollars. It is now found to be an old sort, long known as the Chasselas Musque, or Musk Chasselas.

Winter Pears.—Hovey says, "our correspondent, Mr. Washburn, of Plymouth, informs us that he has just sold the last of his *Easter Beurre* pears, the produce of one dwarf tree. They brought him the handsome sum of twenty dollars; and less than a bushel of fruit. He finds no difficulty whatever in ripening the pears; his practice is to let the fruit hang on the tree as late as possible, even after two or three frosts, if they are not likely to be very severe. Each pear is wrapped in double papers, and kept at an even temperature in a cool room, until wanted for use; they are then brought into a warmer temperature, where in the course of a fortnight they begin to change color, and soon become fit for cooking. In this way they may be ripened off in succession from the middle of December to the middle of March."

Manure for Fruit Trees.—The *Horticulturist* recommends, as one of the best manures for fruit trees, &c., the following:—Pour *brine*, (*old* brine is as good as any) on fresh lime till slaked to a powder. Then make a heap of the fallen leaves of the trees, by sprinkling over every layer of leaves a portion of this compound of lime and salt, at the rate of four bushels to a cord of leaves. In a few weeks it will be ready for use. The proportion of salt to the lime is about as one to four. *Grape* leaves, thus treated, are recommended as best for grapes; peach leaves for peach trees, &c.

Ripening of Apples at the South.—The following statement of E. J. Capell, of Centreville, Miss., in the *Horticulturist*, shows the wide difference between the periods of the ripening of apples in the northern states and at the south:—

"Early Harvest—1st of July."
"Bevan—early summer."
"Holland Pippin—July and August."
"Maiden's Blush—ripens in August."
"Golden Russet—ripens in September."

The preceding appear to be well adapted to the soil and climate of the south. Here, the Early Harvest and Bevan ripen late in summer—the Holland Pippin and Maiden's Blush at mid-autumn—and the the Golden Russet is a good keeping winter apple.

The Diana Grape.

From the experience I have had with this new variety, I should judge it difficult to grow from *cuttings*, as in several attempts I have not succeeded, and I have understood that others have met with similar failures. The wood is slender, which may be the cause. S. H. Colton. *Worcester, Mass, 2d mo.*, 1850.

Farmer's Song.

BY W. L. EATON.

'A rural life is the life for me,'
  Away from the city's strife,
Where the breath of Heaven is pure and free,
  And nature 's full of life;
Where the earth is clothed with a lovely green,
  The flowers smiling and fair,
And the wisdom of God is distinctly seen,
  In all that flourishes there.

We do not envy the man of trade,
  Whose life is with cares oppressed,
Who only is happy as wealth is made,
  And not when others are blessed;
His life bound up in his merchandise,
  His heart absorbed in his gains,
The beauty of earth shut out from his eyes,
  But not from his soul, its pains.

We have nothing to do in Ambition's ways,
  And do not envy the great,
Puffed up by the hollow voice of praise,
  And perplexed with the cares of state;
Elated with hope or depressed with fear,
  They must run when the people call;—
We are happier far in our humble sphere,
  Than they in the Nation's hall.

The gifts of Heaven are freely bestowed,
  The harvest our labor crowns;
No despots can reach our peaceful abode,
  We quail at no tyrant's frowns.
A rural home is the home we love,
  Away from the city's strife,
We bow to none but the God above—
  None know a happier life.

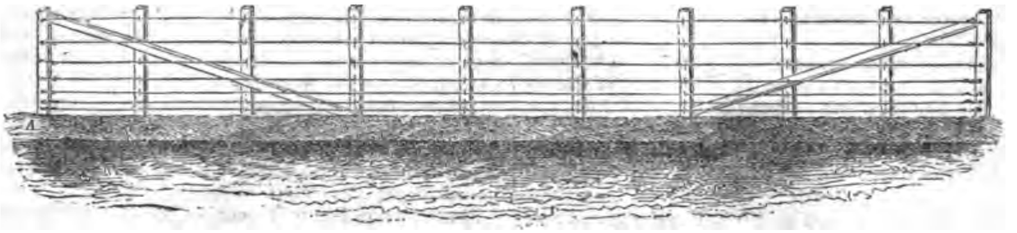


Fig. 1—*Section of fence—A. shows the bank, which may be made any required height. The first wire is* 4 *inches from the ground—the second is* 4½ *above that—the third* 4½*—the fourth* 6*—the fifth* 7*—the sixth* 8, *and the seventh* 9 *inches apart.*

Construction of Wire Fence.

EDS. CULTIVATOR—I observe in your January number, a correspondent expresses his fears, that those who have constructed wire fences, will be disappointed as to their durability and efficiency; that the swaying of the wire will have a tendency to break it off where it goes *through the posts*, and that the accumulation of water in the *holes* of the post, will rust the wire, and weaken and destroy it. If these premises were correct, the conclusions would not be so far out of the way. But I will say in all kindness that your correspondent, in this matter, is deficient in that wisdom which is "profitable to direct." I propose in this communication, to give my experience, and method of constructing *Wire Fence*. In 1845, I constructed the first wire fence that I, or any of my neighbors ever saw; it was something entirely new. This piece of fence is about twenty-five rods long. I have made more every year since, and now have more than a mile of wire fence on my farm, and I think I shall make no other kind unless it may be around yards, where shelter from the wind is desirable. In the first that I made, which has stood nearly five years, the wire appears as sound as when it was put on. I am of opinion that wire of the size of No. 10, will not be injuriously affected by rust, if it is not in contact with the ground, and care should be taken that it should not be. The advantages of wire fences over other kinds are, it costs less, is more durable, is not injured by high winds; is not likely to be broken by unruly cattle; where the frost heaves the post out, they may be driven down without difficulty; it obviates the difficulty of snow drifts where roads are thus fenced; gives an appearance of neatness to a farm, and a feeling of satisfaction to the owner that his crops are safe. The best method of construction is to set the posts one rod apart, and three of smaller size between, so as to have the spaces four feet between the posts to which the wire is fastened, by staples made of wire. The end posts of the line of fence must be firmly set and braced, as in the above engraving. I have a machine for straining the wire, made similar to a wheelbarrow, with a reel 16 inches in diameter on an iron shaft 1¼ inches in diameter, as in Fig. 2, with a long crank for straining the wire, and a shorter one for reeling the wire on the machine. We unite the wire by looping it together as we reel it from the coil on to the reel; in reeling, one takes a coil unbound in his left hand and delivers it with his right, as another turns the reel with one hand and guides the wire with the other, on which he should have a thick leather mitten to prevent laceration from the flaws and slivers on the wire. Enough should be reeled at one time to reach at least, the distance required to be made. Place the machine about ten feet from the end post, in line with the fence to be made. A loop is formed on the end of the wire; one takes it from the reel to the further end post, and fastens it by driving a staple in the loop and another across the twist; then turn the reel till the wire is drawn nearly straight; then place the wire properly against the posts, and fasten it by driving the staple about half way in; then strain the wire as tight as you wish, drive the staple in the end post near the reel, tightly upon the wire; as the reel slackens, turn the wire back and cut it; form a loop, and drive a staple across the twist, as at the other end; then drive the intermediate staples not exactly tight upon the wire, and it is complete.

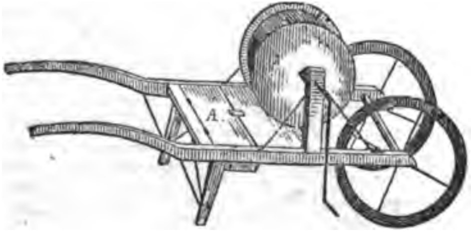


Fig. 2—*A. Box for Tools and Staples.*

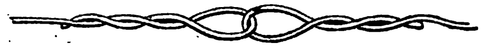
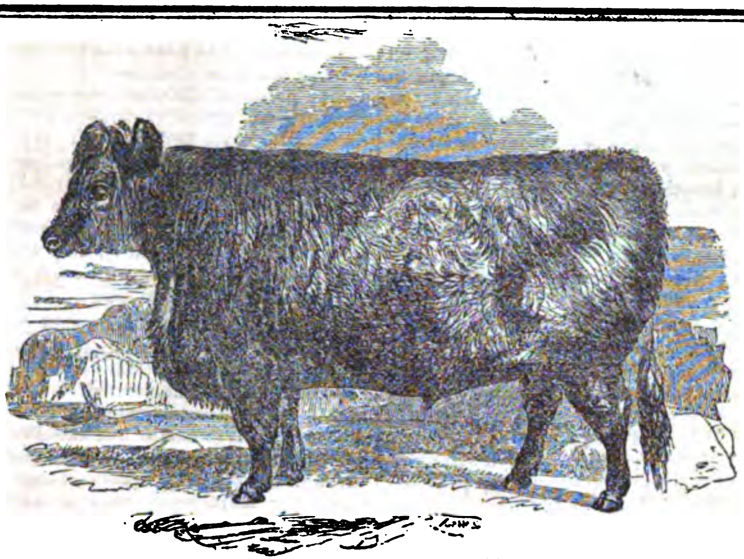


Fig. 3—*Manner of looping the Wire.*

For road fences, seven wires are sufficient, if a bank is formed by two back furrows with a plow, for dividing fields, six are sufficient, or five, where cattle and horses only are to be guarded against. One pound of No. 10 is about 23 feet, which at 5½ cts., is four cts. a rod, nearly, which for 7 wires, is 28 cts. a rod for the wire, which I think is less than any other material can be furnished for; so that the wire, exclusive of the staples, will cost at that rate from 20 to 28 cents a rod. The whole cost of the fence, including posts, which are worth from two to four dollars per hundred, and the labor of erecting, is less than fifty cents per rod. The wire should be annealed before using, as it works better, and is not so apt to break in twisting. The tools necessary in making the fence, are two pair of pincers, to make the loops—such as are used by shoemakers will do—a hand-saw file for cutting the wire, a stick about four feet long, marked with the proper distances for the wire, by which the posts are to be marked for the wires.

The best way that we have tried to make staples, is to take a piece of wire about 20 feet long, fasten one end in a vice and then upon a flat bar of iron, 1½ or 2 inches wide, and about a quarter of an inch thick, wind the wire from the other end closely and tightly upon it; then with a sharp cold chisel cut the wire in the middle on both sides of the bar; 20 feet of wire will make about 120 staples, which can



GALLOWAY OX.—(*see p.* 146.)

be done in a few minutes. Wire No. 11 is large enough for staples. The staples drive and hold much better by being flattened at the ends, and the durability of posts is much increased by charring the ends a few inches above the ground line. I think there would be no great difficulty in constructing a machine to make staples as fast as nails can be cut, and I hope some machinists will do it. The staples should be from ¾ to 1 inch in length—three-quarters is best when driven into oak posts, and one inch for chestnut or cedar.

I have been thus minute in this description, in compliance with the request of your correspondent in the February No. of *The Cultivator*, and I hope if any of your contributors can give further information they will let us hear from them. I consider the introduction of wire fences, the most important improvement in farming that has been made since the invention of the cast-iron plow, and that a greater amount of iron will be required for fence, than for railroads or any other purpose, and thus benefit an important branch of our country's manufactures. Harry Betts. *Brunswick, Rensselaer County, N. Y., Feb.*, 1850.

Eds. Cultivator—Since my last communication to *The Cultivator*, relating to wire fence, I have bought 60 pounds No. 10 wire, at 5½ cents per lb., which confirms the statement I then made regarding the price. I think it was manufactured in Fairfield County, Ct., and were I to construct a mile of this fence in a straight line, I think I would employ but two posts, placing one at each end. These posts should be set at least 3 feet into the ground, and as it is supposed that the posts are much less liable to decay when the holes are filled with small or broken stones, instead of earth, (see *Cultivator* for 1845, page 209,) I would adopt this method, raising the stones around the post a foot above the surface. A strong brace is placed against this post, the foot of which is so firmly planted in a hole directly under the line of the fence, against a flat stone, or plank, that it cannot yield when the wires are strained—the hole filled as above. The post is hewn flat on the side opposite the brace; small auger holes through the brace and post, are made at such distances as the workman may wish the strands to be apart.

The posts being thus placed at each end and angle of the line, the wire, which comes in a coil of a single piece, is introduced by inserting one end of it through the brace and post, and coiling it around a billet of wood, say 2 inches in diameter by 6 inches long, several times in each direction, by twining it around the strand between the billet and post in such a manner that it cannot roll when the wires are strained. The workman now takes the coil of wire and proceeds along the line, uncoiling as he walks, until he reaches the end of the coil. Another coil is now attached, which is done by laying the two ends on the ground, passing them some eight or ten inches by each other, and crossing them twice at about equal distances from the ends, like tying the first part of a common hard knot. A billet of wood like that at the post, except a few inches shorter, is laid on and the ends, brought up over the wood, and tied again, and twined around the main wires.

In this way the workman proceeds, until he reaches the other post, at the end or angle of the line, through which the wire is passed and drawn up as straight as can easily be done by the hands. It is there fastened to a billet of wood, as at the first post; each strand being thus extended with the same degree of tension, or as near as may be. The workman now proceeds to set large-sized common fence stakes. If the surface is undulating, on each eminence and in each hollow, these stakes are to be set into holes made with a heavy crowbar, two feet deep, and driven down with an axe or beetle, and about 15 or 20 feet apart, throughout the line. This being done, he again proceeds with hammer and nails and saw in hand, and inserts in the stakes saw cuts about 1½ in. deep, corresponding exactly with the holes and distances on the posts. Into these cuts the strands are placed, and a tenpenny nail is driven down nearly to the head, across the cut, confining the wire to the stake.

This being done at each stake, no further straining of the strands is necessary, when the surface is sufficiently undulating, but in most cases it will be necessary to attach a strainer, by means of a round stick, 4 inches in diameter, the same length of post above ground, with corresponding holes, and a two inch auger-hole near the centre. It is temporarily erected near the foot of the brace, the wires passed through, before passing through the brace and post, and before the stakes are set, it is carried along on the wires to the centre of the line between the posts. After the wires are put into the saw cuts, a lever is inserted in the large hole, by which the strainer is turned around until the wires are sufficiently strained. The lever is left in, and a stick one inch in diameter and same length of strainer is put in an upright position between the lever and wires, which holds it to its place. In no case should the wires be made to form angles, or even small circles. As a preventive, billets of round wood are used, and the holes in the strainer rounded off.

The wire for a fence of the above description will cost about 17 cents per rod, and when designed for cattle and horses only, the whole cost I think, will not exceed 35 cents per rod. I am inclined to think that annealed wire requires no protection to prevent corrosion. It is said that annealed telegraph wires do not corrode to the injury of their strength, and it is fallacy to suppose that electricity prevents it, when no heat is conveyed to the wires. A recent newspaper relates an instance of a poultry yard having been surrounded 15 years with annealed wires, and they are yet in a good state of preservation. The annealing operation is easily performed, viz.: as a blacksmith heats the tire for setting on a wagon-wheel, allowing it to cool slowly. My cattle fence has 5 strands—top strand five feet, and bottom strand 22 inches from the ground—the space filled with the three remaining strands at equal distances. A. B.

The Farmer's Note-Book.

Galloway Breed of Cattle.

See Portrait—p. 145.

This valuable breed of cattle derives its name from a district of country in Scotland called Galloway, embracing several counties. It may be fairly considered aboriginal, and evidently closely allied to the semi-wild stock of Chatelherault Park—the descendants of an ancient race, which in early times roamed unrestrained in the Caledonian forests.

The true Galloways are without horns. Their color is generally black, though sometimes red and dun. Of all the polled breeds, they are the most highly prized, on account of their many excellencies. As observed by Professor Low—"The breed of Galloway is peculiarly confirmed in its characters, and thoroughly adapted to the condition of the country." Various crosses have been attempted with other breeds with a view of improving the Galloways; but the results, in the end, have not answered expectation, and in the language of Mr. Youatt,—"The intelligent Galloway breeder is now perfectly satisfied that his stock can only be improved by adherence to the pure breed and by care in selection."

It is for their superior grazing qualities that the Galloways are most esteemed. They fatten very easily, and their beef commands a high price in the English markets, it being fine in the grain, and the fat well mixed with the muscular parts. They are mostly slaughtered at three years old, and the average weight of those sent to the London market, is put down at 770 to 840 lbs., the four quarters. The qualities of the breed for the dairy, are only middling. The cows do not yield a large quantity of milk, but it is rich and affords comparatively a large proportion of butter, which is of the finest quality; and the average annual yield per cow, where all the milk is devoted to butter, is 150 lbs., though larger returns are often obtained.

The points of the Galloway ox, are thus given by Martin:—A well-bred Galloway is of admirable form; all is close and compact; the barrel is rounded and ribbed home to the hip-bones; the chest is deep, the shoulders thick and broad; the neck short and thick; the head clean; the back straight and broad; the limbs short, but extremely muscular; the skin moderate but mellow, and well covered with long soft hair,—that on the ears, which are large, is peculiarly rough and long.

We think the Galloways would prove a very useful breed of cattle for many sections of this country, particularly the mountainous and hilly portions of the northern and middle states. We have, on former occasions, expressed the belief that the introduction of these cattle and the West-Highlanders, would be a decided acquisition; and we trust that, through the aid of agricultural associations and enterprising individuals, we shall, before long, have the pleasure of seeing specimens of these valuable breeds in the country.

Southern Ohio.

EDS. CULTIVATOR—It is said all things were made for some good end—and surely it is wise to consider the design and fitness of things. One part of our country—by soil, climate, and market, is suited to one product—another, though not widely different perhaps, for an entirely different.

It is pretty obvious that this part of our great country is well adapted to the raising of stock. Without alluding to our extensive and fertile bottom lands which skirt all of our numerous streams, permit me to occupy a little space in considering the character, quality and capacity of the hills.

Most of them are filled with mineral wealth; iron and coal abound, with lime and marl, as well as the best qualities of stone and clay;—these however, are treasures to be developed in other years; the chief and always the earliest pursuit of a civilized people, is agricultural.

The soil is of every variety—the rich, tenacious red clay, limestone loam, and light sand may all be found contiguous—the latter near streams.

The timber consists of oaks of almost every variety, hickory, walnut, poplar, maple, beech, locust, mulberry and the vine.

Water abundant and pure—showers more reliable than in a level country.

Seasons mild, yet the air bracing; with less change and less severity than those parts of country under either the influence of lakes or prairies.

No marshes, and a very general exemption from the diseases incident to such districts.

Skirted on the south by the Ohio river, by which, at a very small cost, we are enabled to send our products to a market at pleasure.

As there are numerous streams which are navigable for flat boats for from twenty to seventy miles interior, the facilities for cheap transportation are excellent—besides the canals and railroads projected and already completed.

These lands are rough, but adapted to the most nutritious grasses; and while it is impolitic to plow very much, they are admirably adapted for stock of all kinds. Horses may be raised with profit, as we are nearer an eastern market than those with whom we come in competition. Cattle require but little care and thrive well; had I room, it would be easy to show that the dairy is eminently worthy of increased attention. Sheep of the larger breeds of

Merino can be grown by almost any of our farmers successfully, while the finest quality may be produced by those who devote the pains and attention. No where is stock more uniformly healthy, exempt from those diseases which in some localities render the business hazardous.

What we need is more attention devoted to the subject, more capital invested, and more care and skill in breeding.

There are tracts of valuable land bordering upon the Ohio river, such as above described which at most moderate prices are open to the purchaser. **Darwin E. Gardner.** *Marietta, Ohio, Feb.* 5.

Growth of Pumpkins.

Eds. Cultivator—Last summer I had several pumpkin plants come up in my garden spontaneously; and as I devoted a part of the garden to pumpkins, I thought I would let some of them grow. They were not in the richest part of the garden, and I took no pains with them, only to keep down the weeds around them. Two grew very luxuriantly, and produced abundantly. I did not keep an exact account of the number that grew on one; but there were over forty pumpkins, which would average nine or ten pounds a piece. The other produced twenty-seven pumpkins, which averaged a fraction over 22 lbs. each. The heaviest weighed 33 lbs. The lightest weighed 9¼ lbs. The whole amount was 601 lbs. The longest vine was 63 feet, and was still growing when I measured it.

I enclose a few seeds, out of one of the 27 pumpkins. Perhaps they will not do any better or as well in your climate, than your common pumpkins, but you can try them, or let some other persons have them. **Jacob Hitchcock.** *Dwight Mission, Cherokee Nation, Jan.* 24, 1850.

Cabbage Culture.

Eds. Cultivator—I am induced to ask, through your journal, what are the effects of growing cabbages on soil? Is the crop an exhauster or renovator?

There is a little community of us here engaged in cultivating potatoes and cabbages for the southern market. We are on the bank of the Ohio river, immediately below New-Albany, Ind. Our practice is to take a crop of potatoes, and then a crop of Drumhead cabbage from the same ground in one season. We invariably find, that we can get a better crop of potatoes from the ground on which we took, the previous year, both a crop of potatoes and a crop of cabbages, than we can when we only take a crop of potatoes, and leave the ground idle till the following spring.

We have reason to think our experience is not singular in this matter; and we wish to know where the "protein compounds," which a writer in the *Edinburgh Review* speaks of as being found in the cabbage on analysis, are obtained—do they come from the subsoil or from the atmosphere?

Our soil is alluvial, rather sandy, and the subsoil similar to the surface for about thirty feet, when we come to a slate rock. We have had periodical overflows from the river, of three to five feet in depth, once in fifteen years, since 1800. In some instances, the water sweeps three or four inches from the surface, and in other places it deposites from one to two feet in depth. It is probable that the whole space our land now occupies, has in former periods constituted the channel of the Ohio. **J. H. Collins.** *Locust Lawn, near New-Albany, Ind., Feb.* 12, 1850.

Juries in Civil Causes.

by david thomas.

A lawyer of great experience, after reading my remarks in *The Cultivator* for October 1849, page 315, said to me, "that is correct as far as it goes, but it does not reach all the abuses that are practiced. The manner of selecting jurors, is often highly exceptionable. It was doubtless intended by the legislature that supervisors and assessors should choose the best men; but it too often happens when these officers convene, and proceed to business, that if A— is mentioned as a suitable person to serve in that capacity, the reply will be after this manner: "Yes, but he is actively engaged in affairs of his own, and it might be a great damage to him. We had better not impose such a burden on him." So of B—, so of C—; and in this way *second rate*, and *third rate* men have their names entered, and enough of them to make a jury trial but little better than a farce.

"Again—the manner in which juries often arrive at the amount of damages, is iniquitous; and nothing short of a burlesque on Courts of Justice. Suppose K— has slandered L—, and the latter asks damages. When the jurors have retired to their room, a difference of opinion is soon perceived,—and how do you suppose they make up their verdict? By carefully weighing the evidence, and trying to enlighten each other's minds? Perhaps they do so at first; but such discussions soon become tiresome; and not unfrequently they proceed to *chalk*, and take the *average!!* Now then is the time for partialities and antipathies to bud, blossom, and bear fruit. The juror is no longer restrained by the arguments or opinions of his colleagues; but with a view to the *average*, and apprehensive that others may be as *twistical* as himself in an opposite direction,—he marks down a sum which his sober judgment intimates is twice, or three times as great as it ought to be. In the mean time, others with a similar view, mark down only half or a third of what they believe to be just. The whole is then added together and divided by 12! and the foreman gives it in, under oath, as *a true verdict according to law and evidence!!*

"It is some comfort to know however, that the Court will generally set such verdicts aside, if the facts become known; but the utter worthlessness of juries in civil causes, is none the less palpable on this account."

Having forwarded to my learned friend, the preceding sketch for revision,—he sent me by return of mail, the following supplement,—saying however that he had no time to write on such subjects, except in the greatest haste.

"The habits of the great mass of those who are drawn to serve as jurors, do not render them the best judges of the intricate questions upon which they are called to decide,—not that they are deficient in natural endowments, or incapable by due training to resolve the doubts and difficulties which in every contested suit, must perplex men of the keenest intellect. We do not employ a blacksmith to make our coats, nor a carpenter to mend our watches, nor a physician to make our shoes,—and why? Simply because they do not understand the business, and others do. If I disagree with a neighbor as to our mutual rights, why should I refer the matter to 12 men whom I do not know, but of whom I may safely predict that they have been selected at random, and are no better at the solution of a difficulty than myself or my neigbor? Why not at once refer it for final decision to a judge, or a bench of judges, trained to reflection by years of study, and by years of practice, which are the keenest of all sharpeners of intellect. Pay our judges good salaries, render them independent and at ease in a pecuniary point of view, and we can command the best intellect of the country to act as arbiters and umpires between man and man.

"When we reflect that at every circuit of our Supreme Court the most intricate questions come up for decision, differing in the different causes, and originating generally in kinds of business, or phases of circumstances with which "the gentlemen of the jury" are in no wise familiar,—is it at all wonderful that juries so often disagree? or if they agree, that their verdicts are so frequently set aside? The puzzling of witnesses, and the laborious efforts of counsel "to make the worse appear the better reason," leaves *nine* jurors out of *ten* in a sea of doubt, from which they cannot emerge, except by the aid of the judge. He recapitulates the facts, explains the law, and declares the application of the law to the particular facts in the case, and then the jury may come to a lucid conclusion. But why not leave all to the judge at once?

"It is a great error to suppose that it is an easy matter to act as a juror in an average of litigated causes. If the facts are perfectly plain, and the law equally so, it is true that juries can act without difficulty; but it so happens that when these things are so, there is little or no litigation. Men do not often go to law where their mutual rights or remedies are clear; none but a dunce would do so; or now and then a man in a passion to revenge himself of an enemy, might venture a small sum in costs, to give his opponent as much trouble as he makes for himself,—but such cases are rare.

"As a general thing, it is only in cases of doubt that men get entangled in law suits; and then is the time they need the aid of learned judges, and not the opinions of their neighbors who are as ignorant as themselves. Give us juries in criminal cases; but in all civil matters, I for one, prefer to run the risk of *corruption* on the bench, rather than abide the decision of *stupidity* and *prejudice* in the jury box."

Plantation Railroads.

Eds. Cultivator—About two years since, we constructed a railroad of Red Cedar, extending from the Mississippi river about midway of the plantation to the sugar house,—a distance of two miles—for the double purpose of transporting our sugars and molasses to the river for shipment, and carrying our sugar to the sugar house. It answers many other valuable purposes, to wit:—The laborers are conveyed to and from their work in less time and without fatigue. No mud or broiling sun impedes their way. The various supplies for the place, and articles of transportation, are carried on the road. Though last, not least, a higher consideration has been kept in view. Every sabbath morning, all the people, *white* and *black*, are provided with cars to convey them to the church at the end of the road, to hear the word of God preached; the value of which no one can estimate.

The cost of the road did not exceed one thousand dollars per mile.

The greater portion of the road, (the rails being about six or seven inches square) is laid without cross ties; and seems to answer as well as that laid with ties—the ends of the rails being doweled together, and a short plank at the ends laid under.

The rails are bedded about half in the ground. The car wheels are without flanges, and are kept on the track by small horizontal wheels on a vertical axle, running inside the rails, and are not liable to run off. We feared flanges would cut the rails, as no iron is used. From present appearances the road may last twenty years. In our opinion the stock pays fifty per cent. per annum. Two horses are equal to twenty in the usual way. The heaviest load we have carried on it, was a steam sugar boiler, (a locomotive boiler) weighing 14,000 lbs., and without apparently affecting the road.

We believe railroads, both private and public are not yet fully appreciated.

Let us have a railroad *all* the way from New-York to New-Orleans—then where could the Union be divided? S. & R. Tillotson. *New-River, La., Dec.* 30, 1849.

Progress in Knowledge.

Eds. Cultivator—Your able correspondent, Mr. Holbrook, in the February number of *The Cultivator*, very graphically portrays the controversy that has been going on for some years past, between the old and new school classes of farmers; I have, for a long time been an interested "looker on" in this matter, and if I am any judge in human progress, the old school or plow-jogger class are fast losing ground. The great number of agricultural papers that are distributed through the various sections of our Union, are fast doing away the prejudices that once so generally existed in the minds of practical farmers, against what used to be sneeringly termed "book farming."

There seems to be a general belief springing up among a large proportion of the tillers of the soil, that there are special and unerring laws which govern the vegetable, as well as the astronomical world; and reading, thinking farmers are beginning to understand the workings of some of these laws. Ten years ago, how few farmers knew even the name of silex, or silica, and much less of the part it played in the composition of their grains and grasses. But now, thousands upon thousands of our common farmers know all about silica. They know it is the material that gives stiffness to the straw; and they know the use of spreading sand or gravel upon their reclaimed peat meadows and drained swamps, the soil of which consists mostly of decaying vegetable matter. They know too, what is meant by phosphate of lime, and that it enters largely into the composition of the bones of animals; and they have learned too, that old bones can, by the efficient agency of vegetable chemistry, be prepared to be again worked up into new bones, as well as old gold and silver coin, can, by the agency of the mint, be again wrought into new eagles and dollars. And they further know, that ammonia is not the name of some heroine of a novel, or love-tale, but an important constituent of animal manure; finally, they have learned a great many other important things about book-farming. And with such instructors as Profs. Johnston and Norton, they are in a fair way of learning much more that will be of intrinsic value to them. "Science made easy," seems to be the object of Prof. Norton's letters, and that's what we working farmers want—must have, to be interested and benefitted by the labors of scientific men. Technical terms and formulas, are legal tender among the scientific, but they are at rather a discount among farmers at present, though we hope the day is not far distant, when the technical terms of chemistry will be as familiar among the intelligent part of the farming community as "household words." B. *Warner, N. H., Feb.* 19, 1850.

A Wet Cellar made Dry.

Eds. Cultivator—A writer in *The Cultivator* for February, under the head of "Water-Tight Cellars," after some correct observations on the evils and inconveniences of a wet cellar, remarks, that—"every reader who has experience in the use of means to make a dry cellar, should communicate it to the public." Being one who has known the "evils" of a wet cellar, for nearly half a century, and which has within the last two years been converted into a dry one, I freely give the process for the benefit of all interested.

My dwelling stands on a moderate swell, contiguous to an extensive piece of low ground, and the bottom of the cellar being so nearly on a level with it, though furnished with a drain, was never dry, and was often very wet. Flat stones and boards were resorted to as a temporary relief, till in some parts several strata had accumulated. The walls having been laid chiefly with such stones as were gathered on the farm, and without mortar, became a thoroughfare for rats, which till recently, bid defiance to the efforts for their expulsion. This, in connection with the evil first named, made it necessary that something thorough should be attempted, and the work was commenced accordingly. All the varied furniture of a cellar, such as potato and apple bins, meat barrels, &c., was speedily removed. Several inches were pared off the bottom to make room for an equal amount of gravel. A trench was then cut entirely round the cellar, about six inches from the wall, which having been commenced on the surface, rendered this operation indispensable. The trench was carefully stoned with a double row of cobbles, and covered with flat stone, the surface of them being two or three inches below the general level. The old drain was re-opened and deepened sufficiently to receive the water from the inner drain. The next step was to procure a sufficient quantity of creek gravel to give a coating of two or three inches. The number of wagon loads used was five, the cellar being equal to about 30 by 20 feet. The gravel was made compact and sufficiently smooth to receive the mortar, by using a flat headed pounder.

Mortar made of quick lime and sand was then applied to the wall, and the chinks generally filled. But in more places than one, before the mortar had become hard, those marauding, sagacious animals, whose intelligence seems hardly inferior to those who occupy a higher place in creation, made their accustomed inroads. But to the main subject.

The necessary quantity of sand, say about sixty bushels, and four barrels of water-lime, being in readiness, the next step is to proceed to the mixture and application. Unless the sand is nearly free of pebbles, I think it best to sift it, though that is not indispensible. The proportion of each used, was one bushel of lime to three and a-half of sand, which being thoroughly mixed, was then reduced to the proper consistency for application. A vast quantity of water will be necessary, and if not at hand, it should be previously in readiness, as three hands will hardly be sufficient to tend a single mason. The cement was spread from an inch to an inch and a-half thick, and the work completed in about eight hours. The cash expense was about $8, labor estimated at about $12. From four to six weeks are necessary for the bottom to harden sufficiently to walk on without injury. It is well, as a precautionary measure, to lay down a few boards after a couple of weeks, and let them remain until the cement has become so hard as not to receive foot prints.

I have said the *cost* was about $20; the *benefit* of this improvement I will hardly trust myself to estimate. I have a dry cellar; the floor of which is as easily swept as that of any room in the house, and I am not aware that a quart of water has ever appeared on its surface as formerly, except from a supposed leak in a stone cistern, a few times, which was easily disposed of. And I would further say that the rats are beginning to find their case hopeless, it being a long time since they discontinued their unwelcome visits. G. Butler. *Clinton, March* 1, 1850.

Flax with Barley.

Eds. Cultivator—I have, for a number of years, been in the practice of loaning flax seed to sow, for the purpose of obtaining a supply of seed for manufacturing into oil. For the last three years, the average yield has not exceeded ten from one, which is, indeed, a very ordinary yield. I have known farmers who had thirty from one, but it is considered a good return, if one bushel produces twenty.

I recently purchased from Mr. Lawrence Gardner, of Charlton, Saratoga county, N. Y., a little short of twenty bushels, which he raised among his barley, from a little more than a peck sown. Mr. Gardner assured me that the flax by no means interfered with the growth and yield of the barley—that it did not interfere with the harvesting, but on the contrary, it kept the barley so together as to render the harvesting less difficult.

This yield of about seventy-five from one, is perhaps unprecedented in this country; and it would be well for farmers, especially those who do not live at a great distance from Mr. Gardner, to ascertain his mode of sowing, so as to be able to effect such desirable results. X.

We find in the *Berkshire Culturist*, an account of a crop of flax and barley together. It was raised by Mr. Reed Mills, of South Williamstown, Mass. He states that he derived his information in regard to the crop, from *The Cultivator*, vol. iii, (new series) pp. 57, 127, 157. Last spring, he sowed an acre and a-half of ground with three bushels of barley and one of flax-seed. Before sowing, he soaked the barley in weak brine 24 hours, then rolled it in plaster, and added the flax-seed, mixing both together. He obtained 40¼ bushels of barley, worth 67 cents per bushel; 9 bushels of flax-seed, worth one dollar per bushel—the whole being worth $36.14; from which, deducting the expenses of cultivation, interest on land, &c., $11.50, a net profit was left of $24.64.

Farming Economy.

Eds. Cultivator—Twenty years ago it was a common saying among farmers, that all a man could make in farming, was enough to support his family, and, possibly, save a hundred or two hundred dollars a year besides. Farmers who held this idea, were no doubt, honest; they only judged of the profits of farming from their own management. Even now, a great many farmers suppose that in order to make money by farming, they must do all the labor themselves; they say they "can't afford to hire help." This is evidently a great mistake, for if the farmer makes his own labor profitable, he could make that so which he hires, under good management, and without that, no labor can be profitable.

Labor in this country is high, in proportion to what it is in older and more populous countries; but I do not regard this as a subject of regret, for who is "worthy of his hire" if the day-laborer is not?

If the high price of labor operates against the interest of some, it tends greatly to improve the condition of the masses. As a matter of course, the farmer will save as much manual labor as possible, consistent with the proper cultivation of his farm.

But a great point in farming economy consists in the adoption of labor-saving machines and improved implements. Yet a good deal of hand labor will always be required to carry on farming advantageously.

The question is often asked whether capital laid out in farming can be made to *pay*. In reply, I would say, I have known many instances where money laid out in this way has paid well. It is true, that *time* is required for this result; but I believe that capital invested in farming, need never pay less than six per cent.; and under good management, it may yield even eight to ten per cent. on the original stock. The culture of fruits—such as apples, pears, peaches, &c.—often yields a profit of eight to fifteen per cent.

A great barrier to improvement in farming, is the erroneous value which farmers often put on *money*. They seem to think that a dollar is worth much more than its equivalent in wheat, or any agricultural product. This leads them to hoard their cash with scrupulous care, fearing to trust the earth with the loan of a cent—the risk being so much greater, as they say, than on deposites in banks. This difficulty can only be removed by demonstrating to the farmer, the certain success of a better system of management; which will gradually inspire confidence that labor and money expended on the soil, shall not go unrewarded. L. Durand. *Derby, Ct., Feb.*, 1850.

Trial of Plows.

The New-York State Agricultural Society offer the following premiums on plows—the premiums to be decided by a trial to take place at Albany, commencing on Tuesday, the 4th day of June next, and to continue until the committee are fully satisfied that they have arrived at correct results.

Best Sod Plow for stiff soils, furrows not less than 7 inches in depth nor over 10 inches in width,.................... Diploma and	$15
Second best do.,......................................	10
Best Sod Plow for light soils, furrows 6 by 12 inches, Diploma &	15
Second best do.,......................................	10
Best Plow for fallows or "old land,"..............Diploma and	10
Second best do.,......................................	8
Best Subsoil Plow,..............................Diploma and	8
Best Side-hill Plow,............................Diploma and	8

A general competition for these premiums is invited, as the trials will be conducted and the decisions made without regard to any former trials or awards, and will be open to *competitors from any part of the world*.

Competitors must become members of the Society, for which an entrance fee of one dollar will be required, and their names, together with the names and number of the plows intended for trial, must be given to the Secretary, B. P. Johnson, Esq., Albany, on or before the 15th of May next. The plows for which premiums are awarded, must be deposited at the Rooms of the Society, if others of the same pattern are not already there.

The committee to superintend this trial and award the premiums, consists of A. Van Bergen, Coxsackie; John Delafield, Oaklands; J. Stanton Gould, Hudson; Sanford Howard, Albany; B. B. Kirtland, Greenbush.

The committee will meet at the Society's Rooms on Monday, June 3, to make arrangements for the trial.

In deciding the general question—what are the best plows? the committee will be governed by the following principles: 1st, the character of the work performed; 2d, the power required in draught; 3d, quality of materials, durability and cost of the implements.

For *stiff* soil, excellence of work shall consist, first, in leaving the furrow-slice light and friable; second, in so disposing the sod and all vegetable matter, as to insure its ready decomposition.

For *sandy* soil, or that which is already *too light*, the points in regard to quality of work will be, first, thoroughly burying the vegetable matter, and second, leaving the ground generally level.

For fallows or old land, the principal point in reference to the quality of work, will be thorough pulverization and friability of the soil.

In determining the power required in draught, the most perfect instrument will be used, and the trial will be conducted in the most careful and thorough manner.

The same implement for testing draught, and the same team, will be used for all plows in the same class.

The plows may be held by the competitors or by persons appointed by them, as may be preferred.

Importation of Animals from Asia.

The *Charleston* (S. C.) *Mercury* states that Dr. Davis, of that city, has imported the Cashmere goat, a pair of Bramin cattle, and some "Water oxen," together with an assortment of useful poultry. We suppose the Bramin cattle mentioned, belong to the Zebu race, a description of which, with a cut, will be found in our volume for last year, p. 59. It was there mentioned, also, that the late Gorham Parsons, Esq., of Brighton, Mass., introduced, and for several years bred, this kind of cattle. The "Water ox" is probably the common buffalo (*Bos bubalus*) of Asia, eastern Africa, and southern Europe—an animal which naturally inhabits swampy grounds and marshes, and has the habit of wallowing in mud and water. It is sometimes used in Asia for labor in the cultivation of rice grounds, and its milk and flesh are used in some countries for human food.

Among other remarks made in the paper above referred to, respecting the success of these animals in this country, it is said—"The Merino sheep, carried from its original locality, degenerates; but in Saxony crossed upon a coarse wooled sheep, makes a superior and more valuable animal than the Merino in Spain."

We do not think the Merino sheep generally degenerates when carried from Spain—that being the country which is probably alluded to as its "original locality." It has not degenerated in the United States nor in Europe, except under unskilful management. In regard to fineness of wool, it has been *improved* in Germany; as the finest wooled sheep of that country are, in blood, *pure* Merino. It may be true that some high cross of the improved Saxon with the common or "coarse wooled" sheep of that region, produces wool of a finer quality than the common Merino of Spain; but the original Merino blood is, nevertheless, that which is relied on as the foundation of the most perfect fleece.

Wetting Brick in Laying.—The advantage of soaking bricks in water, to prevent the too rapid drying of the mortar, is so great, that a wall 12 inches thick built with wet brick, is considered better than one 16 inches thick with the brick unsoaked.

Letters from Prof. Norton—No. 4.

Neglected Manures—Bones.

Analytical Laboratory, Yale College,
New-Haven, Conn., March 7, 1850.

Eds. Cultivator—The very important method for the application of bones, to which I alluded in the closing paragraph of my last letter, is that of dissolving them in sulphuric acid, the common oil of vitriol. Before describing the various ways of doing this, one or two other points must first be considered.

The first which I would notice is, that the phosphates of lime which compose bones, and in fact all of their earthy parts, are nearly insoluble in water; hence their action, unless added in a state of extremely minute division, or in very large quantity, is often tardy. It is sure and lasting, but the farmer often desires to produce an immediate effect, and that too without adding any very large quantity of the manure which in his neighborhood may be expensive or only procured with difficulty.

The second point relates to sulphuric acid. This is a cheap acid, costing by the carboy, from 2¼ to 3 cents per lb., at least in the vicinity of large towns and cities. It is very sour, and extremely corrosive, destroying animal and vegetable structures with great facility; it burns through flesh or clothing almost instantly, and a very small portion swallowed is fatal to life. It flows thick and has all the appearance of oil; placed upon wood it blackens and chars it, so that it looks as if it had been burned.

When strong, this acid destroys all vegetable life, but when diluted, it becomes a valuable manure. If mixed with so much water that the liquid has no perceptible sour taste, and sprinkled over fields by means of a water cart or other convenient machine, a very remarkable fertilizing effect is produced on many soils, thus proving that the acid itself contains something useful to plants. In certain situations it has been found to give very fair crops of turneps, without the aid of any other manure.

We may now proceed to an account of the changes which take place when this acid is applied to bones, and of the beneficial nature of the compound produced.

Various ways have been recommended for dissolving the bones, and I will mention a few of the most successful. The first step in all cases, is to dilute the acid with two or three times its bulk of water. If used of full strength, it chars and blackens, but does not dissolve the bones. When they are crushed into small pieces or powdered, one-third their weight of acid is sufficient to dissolve them; if whole and large, less than half will not do it completely.

A very common way of managing the solution, is to put the bones into an old hogshead or other convenient vessel, and then pour half or two-thirds the proper quantity of diluted acid upon them; they should be occasionally stirred, and if not dissolved after a day or two, the remainder of the acid may be added.

Another way which I have found very effectual, is to break down the bones and lay them in a heap, on a place where the acid cannot soak away. It should be poured in successive portions on the top of the heap, at intervals of half a day, turning over and mixing thoroughly each time. By both of these methods the bones are finally dissolved, or at least crumbled down to a soft pasty mass, that is mostly soluble in water. The solution is more ready if the bones are powdered slightly, moistened and laid in a heap, to ferment a month before use.

Several chemical changes take place while the bones are dissolving. When the acid is first added, a bubbling up or effervescence occurs; this is owing to the decomposition of whatever carbonate of lime may be present. The carbonic acid goes off, and the sulphuric acid unites with the lime, forming sulphate of lime or common gypsum, which is as all know an excellent manure for most soils.

The sulphuric acid then attacks the phosphate of of lime also, and unites with a portion of its lime, forming sulphate of lime again. The remainder of the lime is still united with all of the phosphoric acid; of course each pound of lime has much more of it than before, thus forming what is called a bi-phosphate or super-phosphate of lime, from its containing a double portion of phosphoric acid. This is much more soluble than the ordinary phosphate.

The acid also acts upon the organic matter or gelatine of the bones, bringing it into a state more readily soluble, and better fitted to supply the wants of plants. Thus we have sulphate of lime, super-phosphate of lime, and soluble organic substances; all being manures of great value, and in states easily appropriated by the plant.

The bones when dissolved, are sometimes applied simply mixed with water. The water is added until no taste of sourness can be perceived, and the liquid is then distributed by a water cart. It produces in many cases most remarkable effects. In fact, when applied in this way, they are more efficacious than in any other, because they are more finely divided and more evenly distributed. It is however, an inconvenient and expensive method, and hence it is more usual to mix the dissolved bones with charred peat, or ashes, or vegetable mould, or sawdust, in sufficient quantity to dry up the acid, and make a compound which can be sown by hand or by a drill machine.

From the composition already given of this manure, it is obvious that it must be one of much value, and the results of its application in practice, fully confirm our theoretical conclusions.

It is found that for many crops, from two to four bushels of dissolved bones produce an effect equal to 16 to 20 bushels of bone dust, which latter has already been described as one of the most powerful manures used. It is a *cheap* application also; two bushels of bones would certainly not be worth more than 50 cts., and would weigh from 100 to 120 lbs. 50 lbs. of acid to dissolve them would cost $1.50, making a total expense of $2. This, with half the usual quantity of ordinary manure, is found quite enough for an acre, and thus appears to be far cheaper than any thing else that could be used with like effect.

Bones enough to fertilize several acres in this way, could be collected in the course of a year on every farm, and their use cannot be too strongly recommended. The trouble of preparation is little, save in imagination, and few who once make trial of them in the way here prescribed, will meet with disappointment. The mixture of dissolved bones and peat or ashes mentioned above, is to be applied either broadcast or sown in drills. This latter method is best in many cases, because it brings the manure in a position more directly and easily accessible to the roots. It should be sown in the bottom of a drill, then a light furrow over, and the seed above so as not to come in immediate contact with the mixture. This is for turneps and that class of crops. For wheat and grain it is best sown broadcast or by a machine.

Machines which sow the manures of this kind, and the seed at the same time, are used in England and would be valuable here. John P. Norton.

Facts and Opinions.

Thorough and Enriching Culture.—The *Working Farmer* says that Samuel Allen, of Morris, N. J., rented last year a field which had been planted two years in corn, and gave only 24 bushels per acre. He subsoiled it, and applied 200 lbs. of Peruvian guano and 200 lbs. of bone dust, composted with charcoal dust, costing six dollars; and the result has been that he raised at the rate of 72 bushels of shelled corn per acre.

Timber for Worm Fences.—In the discussions in the Legislative Agricultural Club of Ohio, one member stated that worm-fence rails, well kept from the ground, will last 20 years—another, that if well put up, the fence would last without repairs 8 years, when it should be re-layed every 4 years, adding two new rails each time. Handsome fences were made by splitting all the rails from the centre of the log of one shape, the ends notched together. The rails are found to last longest when cut in summer, and the bark peeled, so that they will speedily dry as hard as horn, and not remain wet so as to become soft and half decayed by partial fermentation. Black Walnut will thus last 40 or 50 years, and oak heart 20 or 30. Shell-bark hickory, peeled and seasoned, will last 20 years or more.

Durability of Posts.—In the same discussions, one member said he had used burr-oak posts 7 years, and thought they would last 6 or 7 years longer. White oak will last, according to another member, ten or twelve years; locust 20 years or more. Another stated that cherry rotted in eight or nine years; white oak in 10 to 14 years; black walnut in 9 to 10 years; locust 20 years. Much depends, it was affirmed, on the character of the soil; moist land causing a sooner decay than dry.

Agricultural Papers.—The *American Agriculturist* says that of the 20 million inhabitants of this country, more than three-fourths of whom are engaged in agricultural and horticultural pursuits, and most of whom obtain their entire support from these avocations, *not one in two thousand*, and we much doubt if there is *one in three thousand*, who subscribe for and read a purely agricultural paper!

Corn Cobs.—The *American Farmer* says, "we believe there is one-third as much nutriment in a bushel of the cobs, as there is in a bushel of the grain; and we know that cows or oxen, fed upon three pecks of the crushed and steamed cobs, in addition to their usual quantity of hay or fodder, *will keep fat*."

Progress in Michigan.—According to the census of 1840, and the assessors returns in 1849, the increase in sheep and wool in Michigan, has been as follows:—In 1840, 99,618 sheep, and 153,375 pounds of wool—[rather small fleeces.] In 1849, 610,563 sheep, and 1,645, 750 pounds of wool.

There is not so great a disparity in the quantity of grain. In 1840, there were 2,157,000 bushels of wheat, and 4,566,000 bushels of other grain. In 1849, there were 4,739,000 bushels of wheat, and 8,179,000 bushels of other grain.

The Great Exhibition.—It is stated that the Committee, who have in charge the arrangements for the World's Great Industrial Exhibition, to be held next year at London, have already determined to erect a building *a mile in length*, with five avenues each a mile long, and that this is only to begin with, as it is thought to be quite too small for the whole. This will appear more probable, when we remember that at the late *exhibition of implements* at the Fair of the Royal English Agricultural Society, 27 acres were covered by them. To understand well, all that is to be seen at the great approaching exhibition, will require about the same length of attentive observation, as the tour of Europe.

Benefit of Deep Plowing.—The *Michigan Farmer* states that H. B. Lathrop, of Jackson Co., in that State, put in a piece of wheat, plowing not less than *eight inches deep*. At the same time, a neighbor plowed an adjoining field, being careful that the plow did not run more than *four inches deep*. The deep plowing gave *thirty-two* bushels to the acre, and the shallow plowing only *seven*. A portion of the sub-soil often operates as manure, and a deep soil prevents excessive flooding, as well as excessive drouth. The result, however, may vary much with change in localities, but may be easily determined by experiment.

Importation of Manures into Great Britain.—It is computed that the importation of guano into Great Britain in a single year, has been 219,764 tons, and that the importation of bones has been of equal amount, making an aggregate of upwards of 500,000 tons of fertilizers of this kind in one year, which at $5 per ton, amounts to an outlay of £2,500,000—($12,500,000.)

Mineral Manures.—An article in the *Edinburgh Quarterly Review*, attributed to Prof. Johnston, speaking of the failure of certain "patent mineral manures," remarks—"Those insoluble manures have now disappeared from our markets; purely mineral mixtures, however, still retain an uncertain and temporary hold upon the public favor. But two facts are sure to banish them from the list of fertilizing substances, which can generally be relied upon in all soils and for all crops. These are, *first*, that plants do really obtain and require from the soil certain forms of organic food; and, *secondly*, that all naturally fertile soils do contain a sensible proportion of such organic matter. Suppose a soil to be deficient in this organic matter, a purely mineral manure, compounded, cannot supply it; and the application of such a manure upon such soils must be followed by a failure. But let it be naturally rich in such matter, and the mineral mixture may possibly be applied with a profit."

Richness of Milk.—An experienced farmer says, "I find by churning the milk separate, that *one* of my best cows will make as much butter as *three* of my poorest cows, giving the same quantity of milk."

Lard Oil.—It is estimated that 11 million pounds of lard and fat pork will be used in a year in Cincinnati for making lard oil, nearly one-third being converted to stearine. The fat is extracted from the pork, after it is divested of the hams, by means of hot steam under about five atmospheres in large tanks. One establishment thus reduces 600 hogs per day.

To Destroy Moles.—The *Michigan Farmer* gives in substance the following, which must go for what it is worth:—A lady farmer said the meadow moles had annoyed them greatly, and had destroyed two fine pear trees. She tried an expedient for them with triumphant success. Their subterranean passage was uncovered, and two cow's horns, with the large ends from each other, placed in it, so that the moles, coming either way may enter the horns. Such is the "natur of the crittur" that it never backs out of a scrape, persevering ahead till it makes its way or dies in the attempt. The latter it does in the present instance.

Answers to Correspondents.

Substitute for Wringing Clothes.—M. M. B., Boston. We have no information in regard to Robinson's Drying Machine, except that given by our correspondent "R.," in our last volume, page 147. We shall feel obliged if any one will tell us where it can be had, its cost, &c.

Curculio.—S. R. G., Bristol, Ct. We have not a cut of this insect at hand. You will find a good mode of destroying it described in our volume for 1848, page 182. The insect is well described (with cuts,) in Thomas' *Fruit Culturist*, pp. 315, 320.

Sweet Potatoes.—S. D., Granville, N. Y. We doubt whether it would be an object to attempt the cultivation of sweet potatoes so far to the north. But if you are disposed to try them, get an early kind from New Jersey, place them in a hot-bed, and when the sprouts are two to three inches above the ground, break them off carefully, close to the potatoes, and set them in hills or ridges, raised a few inches above the surface—two plants to the hill—the hills two by three feet apart. The soil should be loose and warm, and moderately rich.

Dwarf Pear trees.—"A Subscriber." Dwarf pear trees are formed by grafting the pear on the quince stock. See any modern work on the culture of fruits.

Wind-Mills.—E. G., Bradford Co., Pa. You will find some information on this subject in our vol. for 1846, p. 221. In a late number of the *Boston Cultivator*, Leander Morton, of Hatfield, Mass., gives a brief description of a windmill of his own invention. Its cost is said not to exceed one hundred dollars. He says—"Run a shaft up through the roof of your wood house, with a fly wheel on the top, similar to a tub-wheel, bottom upwards, and build a round house around your fly wheel with doors opening to every point of the compass. If the wind is in the North and South, open your North and South doors, and give it a passage through, upon the extremity of the wings of the wheel. If in the East or West, open your East and West doors, with ropes attached thereto, to let on or shut off wind at your pleasure. Place a drum around the shaft in your wood house, with a connecting belt to the axle of your circular saw.

Threshing Machines.—A. J., Smyrna, Del. For a machine that will thresh the amount you speak of—800 bushels per day—we would refer you to Joseph Hall, Rochester, N. Y.

Separators.—A. J. Pitt's separators we believe work well. They could probably be had of Mr. Hall, at Rochester, or of J. A. Pitts, Springfield, Ohio.

Potatoes.—J. E., Warren County, Pa. Potatoes do not usually do as well on the same ground year after year, as when planted in rotation with other crops; but if it becomes necessary to continue them on the same spot, plow in considerable vegetable matter, in the shape of litter or muck, with moderate dressings of animal manure.

Grass seed sown with Buckwheat.—J. E. Land is sometimes seeded to grass with buckwheat, and in favorable seasons will *catch* well.

Harvesting Machines.—G. B., Goderich, C. W. See answer to inquiry under this head in our last number, (page 121.)

Dorking Fowls.—We have seen fowls imported as Dorkings, as well as others bred here from imported stock, that had but four toes to a foot. We have no doubt that the fowls to which the name of Dorking was first applied, had five toes. Whether any of their descendants unmixed with any other blood, have only four toes, we cannot say. But fowls are now called Dorkings which are quite different from those first described under this name.

Carrots, Beets, &c.—T. B., Kingston, C. W. The cultivation of these crops on the same land for for several years in succession, with good manuring, does not injure the land for grain crops.

Stable Manure.—T. B. We know of no "artificial manures" that are preferable for "crops in general" to good stable manure. If the stock is fed liberally, as you say, with grain and roots, the manure is all the better.

Apple Trees.—W. D. H., Berks county, Pa. Apple trees of good kinds can be bought here, of Wilson, Thorburn & Co., at $18 per hundred.

Peat.—M. D. Jr., Lynchburg, Va. Peat is bog earth, formed chiefly by the growth and decay of moss, in wet or swampy situations. Various aquatic plants and trees also grow in many instances, in these places. The plants add their annual growth, and the trees shed their leaves and drop their dead branches, and in time die themselves, and their trunks mingle with the other substances; and thus the mass accumulates. The lower portion becomes compact by pressure, and in the oldest bogs may be cut out in pieces, which may be dried and used for fuel. The modes of using it for manure have been often described by us. See *Cultivator* for 1847, p. 297.

Carrot Seed.—M. D. Jr. The orange carrot and the white carrot are most productive. The seed of both kinds is kept at the principal seed stores in all parts of the country.

Swine.—W. B. D., Pekin, Ill. There are no Berkshire hogs, nor any known as the "Columbia breed," in this vicinity. The Suffolk breed fattens easily. William Stickney, of Boston, has stock of this breed, imported by himself, for sale.

Improvement of Sandy soils.—S. M., Winsted, Ct. The best means of improving sandy soils, are to apply wood ashes, and well decomposed compost manure. Sow red clover, six quarts or twelve pounds to the acre. If white clover does not "come in," sow two quarts of that seed, per acre, mixed with the red. It has an excellent effect in binding the soil. If plaster is known to operate well on similar land in your neighborhood, sow about 100 pounds per acre, every spring. The plaster and ashes may be sown and left on the surface; the manure should be well harrowed in, or covered with a light furrow. The grazing of sheep is very useful in compacting sandy soils, and in connection with clover and turneps, has been practiced with much advantage. See our volume for 1847, pp. 53, 261.

Sale of Merino Sheep.—We are informed that Messrs. J. D. Patterson, of Westfield, Chautauque county, and A. S. Patterson, of Perry Centre, Wyoming county, N. Y., have lately purchased of Messrs. E. & W. Hammond, of Middlebury, and Jesse Hinds, of Brandon, Vt., upwards of 100 superior Merino sheep. For one lot of 20 young ewes, the price is stated to have been $20 per head.

Advertisements.—Several correspondents have urgently requested that articles advertised in our columns should have the prices affixed to them, and we submit whether the interest of both buyer and seller would not be promoted by this measure. Persons might in many cases be induced to purchase at once, rather than to take the trouble to open a correspondence to learn prices.

Notes for the Month

Our Premiums for Subscribers.

We offered, it will be remembered, TWENTY PREMIUMS, to those who should send us, with the payment in advance, previous to the 20th of March, the greatest number of subscribers to The Cultivator for 1850. In announcing the result, it is proper for us to say, that none of our Agents in the cities are included among the competitors for the prizes, which will account for the non-appearance of their names in the list of those receiving Premiums.

We annex a list of the twenty persons who have obtained the prizes; and we take this occasion to tender to them, and to all others who have so kindly acted as Agents, our most hearty thanks:

1.	A. Cary, Fort Plain, N. Y.,	245 subs.	$50.
2.	L W. Curtis, Madison, N. Y.,	204	$40.
3.	Wm. E. Calkins, Ticonderoga, N. Y.,	178	$30.
4.	H. & J. Brewer, Springfield, Mass.,	130	$20.
5.	C. P. Waller, Honesdale, Pa.,	116	$10.
6.	Wilson Dennis, Quakertown, Pa.,	114	Each $5.00
7.	Samuel Brooks, Edgefield C. H., S. C.,	113	
8.	L. Richmond, Woodstock, Vt.,	104	
9.	Hiram Mills, Lowville, N. Y.,	89	
10.	O. C. Chamberlain, Richfield Sp'gs, N. Y.,	87	
11.	M. Davis, Jr., Lynchburgh, Va.,	86	Each $3.00
12.	James Wells, Johnstown, N. Y.,	80	
13.	Willetts Keese, Peru, N. Y.,	76	
14.	L. Helmer, Ilion, N. Y.,	65	
15.	R S. Bartlett, Binghamton, N. Y.,	54	
16.	Wm. McKinney, Ida Mills, N. Y.,	51	
17.	J. H. Reid, Fredericton, N. B.,	46	
18.	F. H. Fessenden, Brattleborough, Vt.,	42	
19.	A. N. Barber, Harwinton, Ct.,	41	
20.	Charles Root, Gilbertsville, N. Y.,	40	

To all the above, except the first four, we shall add to each premium, a copy of the second volume of THE HORTICULTURIST. We shall also send a copy of the same volume, in addition to the *American Fruit Culturist* to which they are entitled, to all those who have sent us thirty or more subscribers, as follows:

W. H. White,	39	M. Crowell,	32
G. A. Ainsworth,	38	F. B. Smith,	32
J. M. Hart,	38	Jas. La Roche,	31
Jedediah Miller,	38	P. M. Ross,	31
J. D. Spinner,	37	P. C. Stone,	31
Thos. Briggs, Jr.,	36	E. Adams,	30
H. Moore,	36	A. Cornell,	30
R. H. Van Rensselaer,	35	J. Franc,	30
J. N. Sawyer,	35	S. C. Jackson,	30
W. L. Avery,	34	James Lee,	30
C. W. Kellogg,	33	R. S. Marshal,	30
B. Macomber,	33	O. F. Marshall,	30
E. H. Townsend,	33	C. C. Purdy,	30
Charles Bartlett,	32	J. B. Packer,	30
J. W. Reed,	32	Jas. Culver,	30

To all others who have sent us 15 or more subscribers, a copy of THOMAS' *American Fruit Culturist*.

COMMUNICATIONS have come to hand since our last, from A. B., H., T. H. Collins, A Wool Dealer, C. E. G., Lotan Smith, Jacob Hitchcock, E., David Thomas, G. Butler, Levi Durand, C. F., F. Holbrook, F. Engle, G. H. Dadd, ———, Prof. Norton. D. D., Thos. Craighead, Jr., J. H. Salisbury, Wm. R. Prince, R. W., A. S. Copeman, D. D. C.

BOOKS, PAMPHLETS, &c., have been received as follows:

Address before the Anderson District (S. C.) Farmers' Society, November 21, 1849, on the four principal means of improving the soil—Draining, Subsoil Plowing, Rotation of Crops, and Manuring, by Dr. O. R. BROYLES.

Annual of Scientific Discovery—a Year-Book of Facts in Science and Art, for 1850, from the publishers, GOULD, KENDALL & LINCOLN.

A package of Seeds, from the Commissioner of Patents.

Report of the Committee of Supervison of the first exhibition of Domestic Poultry, held at Boston, November, 1849, from Dr. E. WIGHT.

Scions from a Seedling Apple, from W. DENNIS, Quakertown, Pa.

Grammar of Arithmetic, or an Analysis of the Language of Figures and Science of Numbers, by CHAS. DAVIES, L. L. D., from A. S. BARNES & Co., publishers, New-York.

Annual Report of the Board of Agriculture of Ohio, for 1848, from P. C. STONE, Esq., Tallmadge, Ohio—pp. 220.

Guen[illegible]'s Treatise on Milch Cows, with Introductory Remarks on the Cow and the Dairy, by J. S. SKINNER—pp. 68—price, in paper covers, 37½ cents, from the publishers, BANGS, PLATT & Co., New-York. The same, from Mr. McELRATH, bound, price 62½ cents.

Address before the Hartford (Conn.) Ag. Society, by SIMEON HART, Esq., of Farmington.

AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM.—The Committee of the Assembly, to whom was referred the report of the Commissioners appointed to mature a plan for an Agricultural College and Experimental Farm, together with that part of the Governor's Message and other papers relating to the same subject, have brought in a bill for the establishment of such an institution. This bill makes liberal provision for effecting the general design and purposes contemplated, and proposes that the Comptroller be authorised to borrow, on the credit of the State, the sum of one hundred thousand dollars for establishing and carrying on the institution. The bill has not yet been acted on, but we understand that a favorable feeling is manifested in regard to its general features, in both branches of the Legislature.

"IMPORTED SHORT-HORNS—MR. BATES' STOCK."—We have received from AMBROSE STEVENS, Esq., a reply to the remarks of Mr. CHAPMAN, on this subject, published in our January No. Having published Mr. Stevens' commendation of his and Mr. Sherwood's cattle, in our last volume, in which it was thought by Mr. Vail's friends, that injustice was done to Mr. V.'s herd, it became a matter of duty to give place to Mr. Chapman's reply. But as we can perceive no benefit to be derived by our readers from a continuance of the controversy, and as the question has a personal bearing on the interests of two public spirited importers of foreign cattle, we think it best to decline any further discussion of the points at issue, in our pages.

NORTHERN FARMERS IN VIRGINIA.—We have received a communication from a gentleman formerly a citizen of the State of New-York, but who at present resides in Powhattan county, Virginia, on a farm of 700 acres, purchased by him a few years since. In relation to the advantages which that section possesses for northern farmers, he appears to have experienced some disappointment; and he comes to the conclusion that the investment of money in Virginia lands, will not generally prove profitable, under any management that can be adopted, "compared with the same expenditure of labor and money in the State of New-York." He gives various reasons for this conclusion, the principal of which is, that the expenses which the farmer must necessarily incur there, are much greater, in proportion to his income, than at the north. Among the heavy expenses of the farmer in Virginia, he cites those of educating his children. He must either hire a teacher for his family, or pay very high charges for sending them to schools, often at a great distance. Expenses of transporting produce to market are represented as much greater than at the north, and though what the farmer has to sell does not generally, command a higher price than in New York, everything he has to purchase is considerably dearer.

FINE CATTLE.—The butchers of Albany, purchased several fine animals for their usual display of meat on the 22d of February last. E. KIRKPATRICK purchased of CLEMENT LEACH, of Eaton Madison county, N. Y., a pair of short-horned oxen, five years old, raised by E. SHELDON, of Sennett, Cayuga county, N. Y., which received one of the premiums on fat cattle at the State Fair at Syracuse; also a cow, five years old, apparently a mixture of Short-horn and Devon, which received the first premium on fat cows at the same show. J. FREDENRICH purchased the fine Short-horn heifer of J. BARBER, Homor, Cortland county, which took the first premium for fat heifers at Syracuse. These were very superior animals—fully equal in fatness and weight in proportion to offal, to any we have ever seen in this market.

Diana Grape.—Several of our subscribers have asked us to send them buds or cuttings of this grape. There are none to be had in this vicinity.

Good Crop of Corn in Massachusetts.—Mr. Luther Butterfield, of Tyngsborough, Mass., informs us that Mr. Underwood, of that town, raised ninety bushels of corn to the acre last year. We should be glad to receive his account of the mode of cultivation.

Livingston County Cattle.—Mr. Robert Rome, of Mount Morris, Livingston county, N. Y. passed through this city on the 16th of March last, with nineteen head of cattle, fatted by himself, several of which were remarkably fine. Among them we noticed a pair of roan oxen, five years old this spring, half blood shorthorns, bred by Mr. R., weighing 4,820 pounds. They received one of the premiums on fat cattle at the State Fair at Syracuse. A pair of Devon oxen, five years old, bred by E. P. Beck, of Sheldon, Wyoming county, weighing 3,702 pounds. They received the first premium for *grass-fed* cattle at Syracuse. A red Short horned cow, five years old, bred by Halstead, of Castile, weighing 2,075 pounds. A roan cow, in part of Short-horn blood, bred by Hon. A. Ayrault, of Geneseo, weighing 1,900. She received one of the premiums on fat cows at Syracuse. A heifer, three years old, in part of Short-horn blood, bred by Mr. Rome, weighing 1,606; three steers bred by him, same age and similar blood, weighing, 1,700—1,670—1,610 lbs. A pair of oxen, of the common stock, weighing 4,420 pounds. One of the first mentioned oxen, the Devon oxen, the two cows, and the three-year old heifer, were animals of a symmetry and quality seldom equalled. These cattle were designed for New-York, and will afford the epicures of that city such beef as they do not often get.

Good Prices.—We are informed that Messrs. Hill, of Bridport, Vt., sold a three-year old colt, by Black Hawk, a few weeks since, to Col. Carroll, of Maryland, for $1,500; and that they have lately sold a three-year-old filley, for $300. Other colts and fillies, two to three years old, are mentioned as having been sold at prices of $300 to $600 each. An advertisement of Black Hawk for the present season will be found in this number.

Mr. S. A. Gilbert, of East-Hamilton, Madison county, N. Y., passed through this city a short time since, with a substantial gelding and beautiful mare; the former of which he purchased in Walpole, N. H., and the latter of Mr. Ingraham, of Chester, Vt. They were both by the well known horse, Gifford Morgan. The mare is six years old, well made, and a fast traveller. We understand the sum paid for her was $300. She will be an acquisition to the fine stock of Messrs. Ackley & Gilbert, whose horses, Morgan Hunter, and Morgan Chief, are advertised in this number. It will be seen, also, that Messrs. Mason & Co., advertise the fine horse Major Gifford. An advertisement of Mr. Burnett's noted horse Consternation, will also be found in this number.

The Yam Potato.—During the last two years, we have frequently heard this variety of potato mentioned as superior to most kinds in resisting the rot. Mr. Lotan Smith, of Sullivan county, N. Y., first brought this potato to our notice. He left some for distribution last spring, with Mr. Johnson, secretary of the N. Y. State Ag. Society, and several persons who raised them last season, have spoken highly of their productiveness, and of their good qualities for the table. Mr. Smith states that they out yield all other varieties he ever planted, not excepting the Rohans, and that they retain their qualities later in the spring than other kinds. They require a full season to grow, and should on this account be planted early. By reference to Mr. S.'s advertisement in this number, it will be seen that he has the variety for sale.

Eggs from Choice Fowls.—We acknowledge the reception of several packages of eggs, viz., from Capt. Francis Alden, Dedham, Mass., samples from a stock imported from Shanghae, China, by Mr. C. B. Marsh, in 1848, and from a stock known as the Forbes importation, from the same place; from Mr. John Fussell, Jamaica Plain, Mass., a sample from a stock imported from Shanghae in 1849; from Dr. E. Wight, Boston, a sample from his Dorkings, described in our last number. We saw specimens of Capt. Alden's fowls, of the Marsh stock, at the great poultry show in Boston, last November, and noticed that they showed striking marks of having been bred with care and skill. They were very large—the hens weighing 8 to 9, and the cocks 10 to 12 pounds each—of good form, and quite uniform in color and general characters. We have not seen Mr. Fussell's fowls; but are informed that they are similar to Capt. Alden's. The laying qualities of both are said to be first rate.

Loss in Importing Stock.—The sheep noticed in our Dec. No. of last year, page 378, as on their way from England to our correspondent, J. H. Reid, Esq., Fredericton, New-Brunswick, we learn with much regret, died on their passage. Mr. Reid has since, however, ordered another lot from Mr. Large, among which is a New Oxfordshire Ram, for which he pays £50 sterling.

Annual of Scientific Discovery: or Year Book of Facts in Science and Art; exhibiting the most important Discoveries and Improvements in Mechanics, Useful Arts, Natural Philosophy, Chemistry, Astronomy, Meteorology, Zoology, Botany, Mineralogy, Geology, Geography, Antiquities; together with a list of recent scientific publications; a classified list of patents; obituaries of eminent scientific men; and an index of important papers in scientific journals, &c. Edited by David A. Wells and George Bliss, Jr. Boston: Gould, Kendall & Lincoln.

We believe this is the first attempt in this country, to embody the items of annual discovery; though books of this kind have been published for several years in Europe. The volume comprises nearly four hundred pages, handsomely printed and well bound. We cannot doubt that it will meet the approbation of the public, as it furnishes in a convenient form, a collection of the most important facts which have been brought out during the past year. The work is well arranged, and great care has been taken to insert nothing except on good authority. The editors state that Professors Agassiz and Horsford, of the Lawrence Scientific School, Cambridge, have rendered them important assistance in preparing the work.

☞ Our attention was lately attracted by a beautiful lot of Game fowls—four cocks and twelve hens—from the stock of Mr. T. C. Abrahams, West Troy, designed for Mr. J. H. Stickney, Boston.

False Economy.—The *Am. Agriculturist* estimates there are ten farmers who waste $50 annually in manure, where there is one who pays a dollar for an agricultural paper, which would show him how to save it.

United States Standard Bushel.—This contains 2150.42 cubic inches. Its dimensions are 18½ inches (inside) diameter, and 8 inches deep, and when heaped the cone must be at least 6 inches high.

Prices of Agricultural Products.

New-York, March 18, 1850.

FLOUR—Genesee, per bbl., $5.62½a$5.75—Ohio and Michigan, $5.18¾a$5.37.

GRAIN—Wheat, Genesee per bush., $1.28a$1.30—Ohio, $1a$1.15—Canadian, $1.06a$1.10. Corn, Southern, 56a57c.—Northern, 56a57c. Rye, 57a58c. Oats, Northern, 40a43c.—Southern, 33a34c.

BUTTER—best, per lb., 18a23c.—Common state, 8a15c—Ohio, 7a12c.

CHEESE—per lb., 6½a9c.

BEEF—Mess, per bbl., $8.75a9—Prime, $5.75a$6.12.

PORK—Mess, per bbl., $10.37a$10.44—Prime, $8.94a$9.

LARD—per lb., 6a6½c.

HAMS—per lb., Smoked, 8a9c.

HEMP—per ton, American dew-rotted, $155a$160.

COTTON—Upland and Florida, per lb., 11½a13c.—New Orleans and Alabama, 11¼a13¾c.

WOOL—(Boston Prices.)

Prime or Saxon fleeces, per lb.,	43a45c.
American full blood Merino,	39a42
do half do	35a37
do one-fourth do, and common,	33a34

☞ At the great sale of wool in New-York, March 13th, about 300,000 pounds of American fleece wool was sold as follows:

13,000	lbs. common and quarter blood,	33c
20,000	half blood Merino,	34a35c.
44,000	three-quarters and full blood Merino,	37c
35,000	Saxony and Merino, Pa.,	38½c
35,000	" " New-York,	40c
25,000	" " " extra fine,	43c
30,000	extra fine Saxony, (Washington Co., Pa.,) .	46c
15,000	three-qrs. to full blood Merino, Pa. and Ohio,	38c
15,000	half blood, "	35½c
30,000	three-quarters Merino,	36½c
19,000	three-quarters to full blood Merino,	38½
20,000	full blood Merino and Saxony,	45c
1,500	black fleece,	34c
8,000	unwashed fleece,	24½a27c

There was a large attendance at the sale, of manufacturers from abroad. The wool was all purchased for home consumption, with the exception of about 80,000 lbs., which was bought by New-York speculators and dealers. About 80,000 lbs. was purchased by one mill—the Manchester (New Hampshire) Print Works.

NEW-YORK CATTLE MARKET.

Monday, March 18.

At Market—1,500 Beeves, (1,000 Southern, the remainder from this State and the East,) 75 Cows and Calves, and 2,500 Sheep and Lambs.

Beeves.—Owing to the inclement state of the weather, the attendance of the trade was comparatively sparse to-day, and the market closes inordinately dull. Good retailing qualities have been selling since our last at from $5.50 to $7.50 per cwt. as in quality. This is a fraction lower. About 400 would remain over unsold.

Cows and Calves—Rather dull of sale at from $20 to $30a$42.50. Left over, 200.

Sheep and Lambs—The supplies are gradually falling off. Sales at from $2.25 to $3.75a$5.50. 200 would be left over. *Tribune.*

Osage Orange Seed for Hedges.

A SUPPLY of fresh Osage Orange seed, just received from Texas—price $1 per quart, $7 per peck, $25 per bushel. Directions for raising the plants and managing hedges are given in the *Ohio Cultivator*, and will be furnished to each purchaser of seed.

M. B. BATEHAM.

Columbus, Ohio. April 1—1t.

Madder Roots.

MADDER sets selected for planting—price $1 50 per bushel if not less than 10 bushels are ordered. Will be carefully packed and forwarded by railroad or canal, if desired, adding cost of boxes.

M. B. BATEHAM.

Columbus, Ohio, April 1—1t.

The Yam Potato.

FOR sale, 300 bushels of this excellent potato. The price will be sixty-two and a-half cents per bushel, at the farm of the subscriber, or three dollars per barrel at the Erie Railroad, about 30 miles distant.

LOTAN SMITH.

Liberty, Sullivan Co., N. Y., April 1—1t.

Durham Bull for Sale.

THE subscriber has for sale a full blood Durham Bull, three years old, bred by J. Haswell of Hoosic, from the stock of Judge Ball. His color is white—is of good form, quiet and docile temper. He will be sold at the low price of $75, as he has been used for two years in the subscriber's herd.

J. W. PECKHAM.

Easton, Washington Co., N. Y., April 1.—1t.*

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices.

Z. HOSMER,
110 Milk St., Boston.

April 1, 1850.—6t.

Ayrshire Stock for Sale.

ONE Cow eight years old, imported by the late Richard S. Griswold, Esq.

Also, one Bull, "Governor," two years old, from Mr. Griswold's celebrated imported cow, "Lady Rose."

Specimens of stock from the above named animals, may be seen at the residence of the subscriber.

E. M. WOODFORD.

Cottage Farm, West Avon, Ct., April 1, 1850—1t.*

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season, at the stable of S. A. Gilbert, East Hamilton. Terms $10 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse. For figure and description, see *The Cultivator* for 1849, page 216.

MORGAN CHIEF, will be three years old on the 18th of June next. He is a very superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. See *The Cultivator* for 1849, page 67. He will be kept for a few mares only, at the stable of H. R. Ackley, East Hamilton. Terms $10 to insure.

ACKLEY & GILBERT.

East Hamilton, Madison county, N. Y., April 1, 1850.—2t.

Fruit Trees, Scions, and Strawberry Vines.

THE subscriber, general agent for Ellwanger & Barry, nurserymen, for the sale of Trees, can supply orders for any quantities, or for Shrubbery and Scions of the best kinds, grown at Rochester; and where persons would wish a selection made of either, he would advise without charge.

STRAWBERRIES.—He is also agent for M. G. Warner, for the sale of Strawberry Vines, which can be nicely packed in moss and sent over the Continent with safety, by express or otherwise. The kinds below mentioned are among the best grown:

Burr's New Pine,
Rival Hudson,
Boston Pine,
Hovey's Seedling,
Large Early Scarlet.
Crimson Cone,
Black Prince,
Columbus,
Bishop's Orange

The Burr's New Pine, is one of the best extant, and the Rival Hudson for a market fruit is No. 1, and for preserving is the *very best*. Post paid applicants with funds enclosed, shall have prompt attention. He refers to Mr. Tucker, publisher of *The Cultivator*.

Printed Catalogues furnished free to applicants.

Price of Strawberry Vines, 50 cents per dozen. Address

JAMES H. WATTS.

Rochester, April 1, 1850—2t.

Anti-Pyric Paint.

FIRE, WATER, AND WEATHER PROOF.

THIS Paint, manufactured by "The New-York Anti-Pyric Paint Company," is a new species. It is composed of materials entirely fire proof, being scarcely destructible by the blow pipe. It forms a coating impervious to air and moisture, and is completely fire-proof from all the ordinary causes of FIRE, whether Sparks, Cinders, or Heat from a neighboring building in flames.

It is especially adapted for the following uses:—To protect

Roofs from Fire and Leaking,
Wood of all Kinds from Decay,
Tin from Rust, Iron Work, &c., &c.

And it will effectually accomplish it by being properly applied.

It is also the best Paint for the Walls of Brick Buildings, giving them the appearance and solidity of stone, and saving the necessity of using sand, which is annoying, and will last but a short time. Besides this, it NEVER PEELS OFF. See Certificate from Professor Reid.

Persons desirous of trying this Paint, are requested to call at the office of the subscriber, who keeps it constantly on hand for sale, and where every information will be given.

GEO. G. SHEPPARD.

Sole Agent for the N. Y. Anti-Pyric Paint Co., 187 Water Street, near Fulton.

CERTIFICATE.

N. Y. Hospital, Dec. 8, 1849.

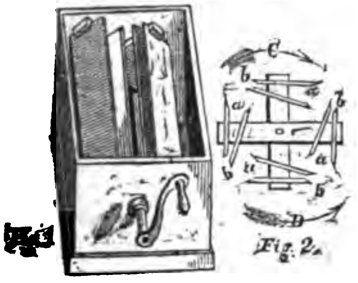
I have made an experimental investigation into the properties of a paint prepared by the N. Y. Anti-pyric Paint Company, named Anti-Pyric Paint. Being acquainted with its composition, I would state, that it is of an incombustible nature; and from the dense and adhesive qualities it is prepared of, that it is eminently protective against the action of the atmosphere, and will have the effect of preserving wood and other surfaces on which it may be spread, from decay. With regard to its Anti-Pyric qualities, I would say, from the experiments I have made, that there is no probability of shingles and other wooden surfaces painted with it, taking fire from showers of ashes and cinders, one of the principal causes of the disastrous character of our fires. I consider that the "New-York Anti-Pyric Paint Company," has brought forward a valuable and useful improvement in a necessary article, and that it deserves the consideration of the public, as a safeguard against fires, and the earnest attention of the Insurance Companies, as greatly lessening their risks.

LAWRENCE REID,

Professor of Chemistry, and Lecturer on Medical Chemistry, New York Hospital.

April 1—1t.

New Patent Churn.



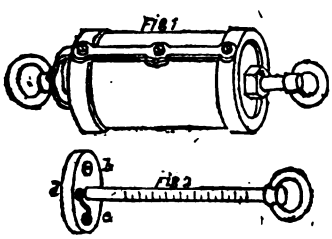
THIS churn is offered to the public with the fullest confidence in its superiority over any other crank churn in use. It has all the advantages of the crank churn without having any of their objections, the iron rod is dispensed with and the difficulty of gathering the butter is removed, as this arrangement of the floats is the best for gathering of any ever before offered. For further particulars, see Catalogue of Albany Agricultural Warehouse, or February No. of *Cultivator.*

The Silver Medal of the American Institute was awarded this churn, as the best of a large variety exhibited at their Fair in October last.

Also, Kendall's, Gault's and Dash Churns, constantly on hand at the Albany Agricultural Warehouse of

H. L. EMERY,
April 1, 1850. 369 & 371 Broadway.

Emery's Cylindrical Dynamometer.



THIS instrument is intended to be used as a comparative test of the power required to overcome the resistance of bodies under draft, & more particularly that of Plows. The common spring instrument has many faults, among which the most important are its *vibration* and its want of *self Determination* in pounds of the medium force constantly required to perform the work. This invention is not only free from these faults, but it also indicates the absolute relative quantity of force expended in performing a given quantity of work. It consists of a strong iron cylinder with piston ground steam tight, the piston rod passing through a stuffing box and terminating with a ring. The cylinder being filled with the proper fluid, and a small hole made through the piston, by applying the force to the ring, the piston is drawn out in a given time and by a given force. The State Agricultural Society, American Institute, and the Worcester Mechanics Association, each awarded the inventor a silver medal and the highest recommendation for its correctness and utility.

County Societies, Plow manufacturers and others desiring these instruments, can obtain them by addressing H. L. EMERY,

Albany Agricultural Warehouse,
April 1, 1850. 369 & 371 Broadway, Albany.

Morgan Horse Black-Hawk.

THIS well-known stallion will stand for the present season at the stable of the subscribers; terms, $20 the season. The superiority of this horse as a stock-getter, is becoming more and more highly estimated, as his progeny increase, and their powers as fast trotters and durable roadsters are demonstrated. For particulars, see large bills.

D. & D. E. HILL.
Bridport, Vt., April 1.—3t.

The Imported Thorough-bred Horse

CONSTERNATION, will stand for mares the coming season, at the farm of the subscriber, near the city of Syracuse.

TERMS.—Five dollars in advance, and five dollars additional if the mare is got in foal. Mares left with the subscriber during the season, or until he consents that they shall return, will be insured for $10. Pasture 3 shillings per week. No mare taken except at the risk of the owner.

J. B. BURNET.
April 1, 1850.—3t.

The Morgan Horse

MAJOR GIFFORD, will stand the ensuing season on Mondays, Tuesdays and Wednesdays, at the stable of E. W. Sheldon, in Sennett. On Thursdays and Fridays, at the stable of S B. Rowe, in Camillus, and on Saturdays, at the stable of John C. Munro, in Bellisle.

Major Gifford is seven years old this spring, his color a beautiful chestnut—was sired by the Gifford Morgan, his dam a pure Morgan. Breeders of good horses are invited to call and see him.

TERMS.—Ten dollars to insure. Pasturage furnished. Accidents and escapes at risk of owners.

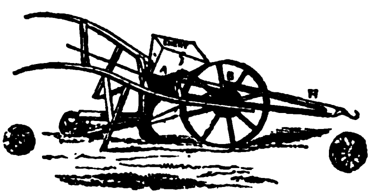
MASON & CO.
April 1, 1850.—3t.*

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Emery's Seed and Corn Planter,

For Hand or Horse Power.



THIS is acknowledged the best machine for the purpose, now in use. They have been in use four years, and the demand constantly increasing. The first premiums of the N.Y. State Ag. Society, the Massachusetts Charitable Association, the American Institute, and at every county society where it has been exhibited, have been awarded it.

It is equally well adapted for all small seeds in drills, or Corn, Beans, Peas, &c., in either hills or drills, any quantity and distance apart, &c., &c.

It is driven by a gear motion without bands, which insures a constant and uniform action. Price $14. For sale at the

Albany Agricultural Warehouse,
Nos. 369 & 371 Broadway.
April 1, 1850. H. L. EMERY.

For Sale.

THE horse SIR HENRY ECLIPSE. He is four years old, past, and is over seventeen hands high; girth at the breast, where the collar rests, 5 feet 2 inches; lengthwise, around the breast and rump, 13 feet 7 inches; from inside of hip to shoulder, 1 foot 10 inches; round the thigh, 3 feet 8 inches; round the arm, 1 foot 11 inches.

He is a dark chestnut, and is hardly excelled by any horse in the land; and his stock bids fair to excel any of the horse kind ever in this country. At three years old, he took the first premium at Buffalo, for colts of that age, and if justice had been done, he would have taken the sweep-stakes at Syracuse.

I also offer the horse PETER MORGAN or Morgan Messenger. He is five years old, past; is a dark bay; fast trotter; stands 15½ hands high, and is well shaped in all respects.

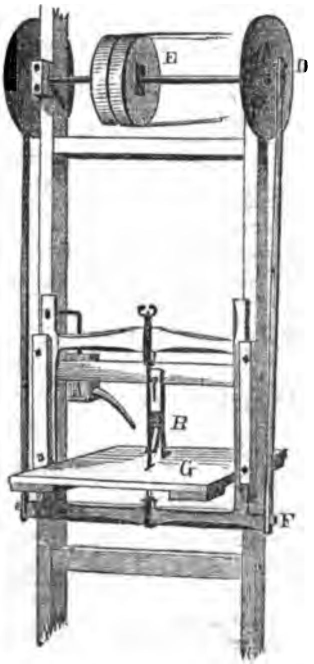
If not sold, there will be notice in the May number of *The Cultivator*, of the place of standing for these horses, the coming season. Any communication, post paid, will receive strict attention.

JOHN D. SPINNER.
Herkimer, N. Y., April 1, 1850—1t.

Upright Saw Mill.

For Sawing Curved work in Wagon making, Cabinet Work, &c., &c.,

THE annexed cut represents the most simple and effectual arrangement for a saw mill for the purposes designed.



As these are made, they are equally well adapted for our 1 Horse Power, or may be used by steam or water power as desired. Its construction is a simple frame with two uprights from 8 to 12 feet long, with 3 cross beams of 3½X6½ inch square. Near the upper end is hung a straight shaft with fly wheels D on each end, outside the frame.

E. Two driving pulleys, (one loose.)

C. Wrist pins in fly wheels, to drive connecting rods.

F. Connection of the driving rods, and lower part of saw gate.

G. Table.

B. Dog for holding down plank.

A. Wind Box and Pipe, for cleaning away sawdust.

These mills can be afforded complete for $35, ready to be driven by horse, steam, or water power. They are warranted to be superior to any thing of the kind heretofore offered—and with one of the R. Road Horse Powers, is an important acquisition to mechanics having heavy or curved sawing to do.

For sale at the Agricultural Warehouse of

H. L. EMERY,
April 1, 1850. 369 & 371 Broadway, Albany, N Y.

N. B. The whole can be taken to pieces and packed for shipment to any part of the country. Weight about 300 pounds.

Highland Nurseries, Newburgh, N. Y.

(*Late A. J. Downing & Co.*)

THE PROPRIETORS beg leave to inform their patrons, and the public in general, that their stock of

Fruit and Ornamental Trees, Shrubs, Roses, &c.,

For Spring planting, is unusually large and thrifty, and embraces all of the best varieties introduced into notice in this country or Europe; of Apple, Pear, Plum, Cherry, Peach, Nectarine, Apricot, Grapevines, Gooseberry, Currants, Raspberry, Strawberry, &c., &c.

Portugal Quince trees, standards, extra size, each....	$1 00
do. do. quenouille, do.	1 00
Angers, (true,) extra	1 00
Trees of the usual size..............................	0 50

Also, *Pears* on Quince, and *Apple* on Paradise stocks, for dwarf trees.

The stock of Ornamental Trees, Shrubs, &c., is very large; and quantities to dealers, or planters on a large scale, will be furnished at greatly reduced rates.

Hedge Plants.

A large stock of Buckthorn, and Osage Orange plants.

Also, a large stock of Rhubarb and Asparagus roots.

The entire stock has been propagated under the personal supervision of A. SAUL, whose long connection with this establishment is some guarantee, from the reputation it has gained, (and the present proprietors are determined to merit,) as to the genuineness and accuracy of the present stock.

Orders respectfully solicited, and will receive prompt attention, which will be carefully packed and shipped to any part of the Union or Europe.

Catalogues furnished gratis to post-paid applicants.

Feb. 1, 1850—3t. A. SAUL & CO.

Syracuse Nurseries,

THORP, SMITH & HANCHETT, PROPRIETORS,

Syracuse, N. Y.

WE have now standing in our nurseries, of suitable age and size for transplanting,

More than 100,000 *Fruit Trees,*

Consisting of the various kinds adapted to this climate, from which, persons desiring to establish *Apple, Pear or Peach Orchards* for profit, or those who wish merely to furnish their *Gardens* or *Town Lots* with a few select varieties for their own pleasure and enjoyment, can provide themselves with *all in quantity* which may be wanted, and *every thing in kind* which is most worthy of cultivation.

Our stock embraces, of Fruit Trees,

Apple and Cherry, of extra size;
Peach and Plum, of the best early, medium and late varieties;
Standard Pear, of unusual thriftiness and beauty;
Dwarf Pear, among which are the following choice kinds:

Ananas,
Bartlett,
Beurre Diel,
do Piquey,
do Capiaumont,
Colmar d'Aremberg,
Duchess d'Angouleme,
Doyenne White,
do Boussouck,
Easter Beurre,
Glout Morceau,
Louise Bonne d'Jersey,
Madeleine,
Passe Colmar,
Summer Franc Real,
Soldat Laboureur,
Van Mons L. Le Clerc,
Vicar of Winkfield

Of Ornamental Trees,

1,000 *Horse Chestnuts*, 10 to 12 feet high, very stocky, and well formed;
1,000 *Mountain Ash*, American, 8 to 10 ft. high, with fine heads;
500 do. do. European, 6 to 8 ft. high, do do
500 *Ailanthus*, large and regularly shaped.

And of Miscellaneous Productions,

Fir Trees, Silver-leaved Abele, Snowballs, Michigan Roses (double,) Buckthorn, bearing Grape vines, Seedling Horse Chestnuts, 1 and 2 years old, Quince Stocks, Quince Trees, &c., &c., &c. All or any of which will be sold at very reasonable prices,

At Wholesale or Retail.

As no pains have been spared to give our Trees while in the nursery, a vigorous and healthy start, they do not require, on transplanting, that tedious process of wet-nursing which is indispensable to bring up those of a slow, lean, and stunted growth.

☞ *Catalogues* furnished, as usual, to *post-paid* applications.

Syracuse, March 1, 1850—2t.

Take Notice.

THREE Months Extra Pay and One Hundred and Sixty Acres of Land will be procured for all who enlisted for five years, or during the war of 1812, and for all, including Volunteers who served in Mexico, and for the heirs of all who have died in the service.

Information will be given to relatives, Free of Charge, by writing to G. F. LEWIS, Detroit, Michigan, (postage paid.)

Those who do not know what became of their friends, write when and where they joined the army. Feb. 1—3t.*

A Rare Chance.

THE subscriber offers for sale, or in exchange for serviceable horses or mares, his splendid bay Colt, of the "Surprise" stock. His interest in the Norman horse, makes it desirable to be free from this charge. The stallion offered, is nearly five years old, and from his size and muscular developments, promises finely. Some superior foals of his get, can be shown. Any communication may be addressed to ROBERT B. HOWLAND,

March 1—2t Union Springs, Cayuga Co., N. Y.

To Fruit Growers.

THE subscriber cultivates at his various nurseries, and has for sale at his residence, *Eustis St., Roxbury, Mass.*, all the choice varieties of the

Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees. Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, &c.

Also, several thousand Pear Trees on the quince, 1, 2, 3, 4, and 5 years from the bud.

Particular attention paid to the cultivation of the *PEAR*; persons wishing extra sized trees, *or Trees on Quince Stocks in a bearing state*, will please call at the nurseries, and make their own selection.

Buckthorn for Hedges, One, Two and Three Years Old.

Ornamental Trees, Shrubs, Roses, Herbaceous Plants, Pœonies, &c.

Scions of all the varieties of the Pear, of established reputation, and also of other fruits.

The whole for sale at the market price.

SAMUEL WALKER,
March 1, 1850.—2t. Roxbury, Mass

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,

Feb. 1—6ms. JOSEPH CALDWELL.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO., being about to clear off the entire stock of one of their nurseries, adjacent to the residence of Mr. A. J. Downing, they would call especial attention of Nurserymen, or persons about to commence the business, to the stock of trees thereon. They consist principally of Pears, including all the leading and standard varieties, from 2 to 4 feet high. Also, a lot of Plum and Cherry Trees, and some Ornamental Trees; many of which are good saleable trees. All of which will be sold at such reduced rates, as to make it cheap stock for young nurserymen to plant out.

March 1—2t.

Agricultural Warehouse,

193 *Front Street, New-York.*

THE subscriber, manufacturer and dealer in *Agricultural Implements*, offers for sale one of the largest assortments to be found in the United States. Among which are the celebrated *Premium Plows*, which were awarded the highest premium of the *New-York State Fair* in 1847, and of the *American Institute* in 1846, 1848, and 1849. Also, the *Centre Draught*, *Eagle*, and all other *Plows* mostly in use. *Corn Shellers, Straw Cutters, Fanning Mills, Portable Grist Mills, Horse Powers, Threshing Machines, Seed Sowers, Wheelbarrows, &c.* All of which will be warranted to be of the best quality and sold at the lowest rates.

JOHN MOORE,
March 1—3t. 193 Front Street.

Highland Nurseries, Newburgh, N. Y.

Late A. J. Downing & Co.

20,000 Apple Trees of the most approved varieties, for sale, (of *extra size*, from 8 to 12 ft. high, and 3 to 5 years' growth,) at $20 per hundred.

Persons wanting trees to sell again, will be dealt liberally with.

Feb. 1, 1850—3t. A. SAUL & CO.

Wanted.

A YOUNG man with a small family to take charge of a nursery, who has some knowledge of farming, and is thoroughly acquainted with the propagation of Fruit Trees.

He must be well recommended as a man of integrity, and to be moral and temperate in his habits. None other need apply.

RUFUS WHITTIER.
Chickopee, Mass., Feb. 1, 1850.—3t.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Stocks, Scions, Evergreens, Strawberry Plants, &c

B. M. WATSON offers for sale at the *Old Colony Nurseries*, PLYMOUTH, MASS., Stocks of Fruit Trees of first rate quality, suitable for spring grafting and budding in the coming summer, at the annexed prices per 1000. Apple, 1 year, strong, $5; 3 years, transplanted, $10—Pear, 1 year, $8; 2 years, $15; 3 years, transplanted $20—Plum, 2 years, $15—Cherry, 2 years, $12; 3 years transplanted, $15—Quince, large and fine, $18; 1 year, strong. $12—Mahaleb, strong, $25—Paradised, strong, $25—St. Jean, (dwarfer) $5 per 100. Ash, Maple, Laburnum, Lime, SpanishChestnut, Poplar, Mountain Ash, Elm, Alder, &c., &c., 4 feet, at $3 to $8 per 100. Arbor Vitæ, Norway Spruce, Scotch Fir, Balsam Fir, Silver Fir, Larch, Red Cedar, 1 to 2 feet, $5 to $10 per 100.

SCIONS. Apple scions, (fine sorts) $1.50 per 100. Paradise cuttings $8 per 1000. Scions of the finest sorts of pear of established reputation (say 30 sorts,) and of other fruits, $2 per 100, $15 per 1000.

STRAWBERRIES. Burr's New Pine, $4 per 100; Boston Pine, $1; Hovey's Seedling, $1; Richardson's Early, Late and Cambridge (fine sorts) $1.50 per doz.; Early Virginia Scarlet, $1 per 100; Jenny's Seedling. $3; Aberdeen Beehive, $5; Swainstone, $3; Myatt's Eliza, $2; Crimson Cone, $2; Black Prince, $5; Deptford Pine, $3; Princess Alice Maude, $3; Keene's Seedling, $2; Willey's Seedling, $3; White wood, $1;—25 cents to $1 per dozen.

Also, Dwarf and Standard Pears, select Shade Trees, Shrubs and Climbers; Weeping Trees for lawns, Roses, Phloxes, Verbenas, Chrysanthemums, and other fine plants for masses, at low prices, of which a priced list will be sent, post paid, on application.

Also, Pear seed of prime quality.

Feb. 1, 1850.—3t.

Horse Powers and Threshing Machines.

E. PLANT, No. 30 Cedar Street, New-York, Agent for the Proprietor, for making and selling the "Warren" Improved Two and Four Horse Powers and Threshers. Also, "Trimbles."

Price of the "Warren" Two Horse Power and Thresher, only $80
do do Four do do do $110
Price of the "Trimble" Two Horse Power, (without Thresher,) $60
do "Warren" do do do do $50
do do Four do do do $75
Bands, from $4.50 to $6.

These *latest Improved* Threshers and Powers give universal satisfaction, and are deemed far superior to any others known heretofore for any thing like their cost.

Cash Orders filled promptly.

N. B. *PURCHASING & COMMISSION AGENCY.*

The undersigned also continues the business of the late E. Plant & J. Plant, (E. Plant & Co.,) of Purchasing for Orders, on Credit or for Cash, Dry Goods, Groceries, Hardware, &c., &c., for a commission of 2½ per cent. Produce, such as Sugar, Cotton, Tobacco, Peltries, &c., also received and sold on Commission. E. PLANT,

Dec. 1, 1849—6t. No. 30 Cedar St New-York.

Poudrette.

THE LODI MANUFACTURING CO., offer their new and improved Poudrette, for sale at their usual rates:—1 bbl. $2—3 bbls. $5, and $1.50 per bbl. for any quantity over 7 bbls., delivered free of expense on board of vessel in New York. At the Factory, where vessels drawing 8 feet water can come, it will be sold at 25 cents per bushel.

The expense per acre in manuring corn with Poudrette, will amount to about $4, calculating 25 cents per bbl. freight, and all the necessary labor included. On land previously manured, or on good sward land, one gill to the hill is sufficient—on poor ground, a good crop can be raised by one gill at planting, and one at the last hoeing. The cost of the labor alone in manuring corn in the hill with barn yard manure, will amount to more than the first cost of the Poudrette, with freight and all charges added; and the effects of Poudrette are quicker, more vigorous, and the corn reaches maturity earlier. A fair trial, *however small*, is respectfully solicited.

A pamphlet containing instructions for use, certificates from some of the first Agriculturists in the United States, and much valuable information will be sent *gratis*, to any one applying (*post paid* if by letter,) to "THE LODI MANUFACTURING COMPANY, 66 Dey street, New-York. Feb. 1—4ms.

Isabella Grape Vines,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over twelve years has conferred on the Vineyards at Croton Point, are offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the grape with entire success, (provided their locality is not too far north.) All communications, post paid, addressed to R. T. UNDERHILL, M. D., No. 310 Broadway, New-York, will receive prompt attention.

He feels quite confident that he has so far meliorated the character and habits of the grape vines in his vineyards and nurseries by improved cultivation, pruning, &c., that they will generally ripen well, and produce good fruit when planted in most of the Northern and all the Western, Middle and Southern States. March 1, 1850—2t.

The American Fowl Breeder,

A New and Valuable book,

CONTAINING full information on Breeding, Rearing, Diseases and Management of

Domestic Poultry,

And instructions concerning the choice of pure Stock, Crossing, Caponising, &c., &c., *WITH ENGRAVINGS.* By an association of Practical Breeders.

The above valuable work is just published by John P. Jewett & Co., Cornhill, Boston, and it is offered at the extremely low price of *Twenty-five Cents* per copy, to bring it within the means of every man interested in Poultry.

☞ *We want* 100 *Good Faithful Agents,* ☜

To sell this work in every county in New England, New-York, Pennsylvania and the West, in connection with

Cole's American Fruit Book,
AND
Cole's American Veterinarian.

Active and intelligent men can make money at the business.

Address, post paid, the publishers.

JOHN P. JEWETT & CO.,
Cornhill, Boston.

P. S. The American Fowl Breeder is done up with thin covers, and can be sent by mail to any part of the country. Any person sending a quarter of a dollar by mail, *post paid*, shall receive a copy of the book.

Feb. 1—3t.

Seedlings.

PEAR, Plum. Cherry, Quince, Apples, Horsechestnut, Mountain Ash, and Buckthorn Seedlings for sale. Also seed of the above kinds of trees. Every variety of Fruit and Ornamental Trees, and grafts of the celebrated Virgalieu Pear of Geneva. For sale at the Geneva Nursery, by

W. G VERPLANCK.

Geneva, Nov. 1.—6t.*

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

The following are a part of the utensils kept for sale by us, which are considered the best in use, all of them having taken the highest premiums:—Wheeler's Railway Horse Power, Threshing Machines and Separators, Grant's Fanning Mills, of six different sizes, for Rice as well as Grain; Mayher's do.; Hovey's Spiral Hay, Straw and Stalk Cutters; Smith's Smut Machines and Buckwheat Cleaners; Beal's Corn and Cob Crushers, for Feed, horse power; Sinclair's Corn and Cob Crushers, for hand or power; Sinclair's Hay, Straw and Stalk Cutters, hand or horse power; Greene's Hay Cutters, 12, 18 and 24 knifes; Mayher's Hay and Straw Cutters, 8, 10, 12, 15, and 18 knifes; Wheeler's Stalk or Cane Cutter, Power Machine; Mayher & Co.'s Corn Shellers, single and double-hand or power; Burrall's Corn Shellers and Separators; Warren's do., wood and iron; Smith's Corn Sheller and Separator. (power,) 1200 Bushels per day; Virginia do. do., hand or power, 600 to 900 bushels per day; Sinclair's do. do. and Husker, power; Whitman's Horse Power, Threshing Machine and Cleaners; Taplins' Horse Powers; Mayher's do. do.; Emery's Threshing Machines, one and two horse power; Emery's Seed Sowers or Corn Planters; Emery's Saw Mill; Emery's Centrifugal Churns; Thermometer Churns, of different sizes; Cylindrical Churns; Atmospheric Churns; Self-Acting Cheese Presses; Hay Presses: Bachelor's Corn Planter; Seed Sowers of different kinds; Bark Mills; Cider Mills; Paint Mills; Coffee Mills; Corn Mills; Fitzgerald's Flouring Mills; Prentiss and Pages' Flouring Mills, Burr Stone; Mayher & Co.'s Eagle Improved Polished Plows, of different sizes and patterns; Worcester do.; Mayher & Co.'s common do.; Freeborn do.; Prouty and Mear's Plows of all kinds Center Draught; Sub Soil Plows of different kinds and sizes; Side-Hill do; Double Mouldboard do.; Cultivators, Steel and Cast-Iron teeth; Geddes' Harrows; Ox Yokes and Bows; Single and Double Wiffletrees; Ox Scrapers, of Wood and Iron, large and small; Ox Carts; Farm Wagons; Mule Carts; Wheelbarrows; Canal Barrows; Field and Garden Rollers, Iron and Wood; Wheat Drills; Reaping Machines; Mowing Machines; Rice Hullers; Store Trucks; Ground Augers; Ox-leg and Trace Chains; Pickaxes; Grub Hoes; Rakes, Scythe Sneaths, Grain Cradles, Crow-Bars, &c., &c. In fact, we have every thing wanted for Farming purposes, got up in the best manner, style, workmanship, and of the very best material, of all the latest improvements. We have also for sale a large quantity of the best Seed and Spring Wheat, Oats, Corn, Barley, Rye, Peas, Beans, Turnip, Cabbage, Beet, Carrot, Parsnip, Onion, Radish, Asparagus, Clover and Grass Seed, raised expressly for us, and warranted fresh—a very superior article. We also have a large quantity of Guano, Bone Dust, Lime, Plaster and other Fertilizers on hand, Ornamental and Fruit Trees, Shrubs, &c., of the best quality, furnished to order. Also, Wire Cloth, of all kinds; Castings do., Steam Engines, Sugar Mills, Saw Mills, Shingle and Brick Machines, together with Force, Cistern, Well, and other Pumps.

JOHN MAYHER & CO.,

Feb. 1, 1850—tf No. 197 Water street, New-York.

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Geo. Glenny's New Farm & Garden Newspaper, "THE COUNTRY GENTLEMAN,"

IS published in London, on Mondays in time for post, with the latest market prices of Corn, Meat, Cattle, Seeds, and Money, and is the very best weekly Review and Family Newspaper in England, as well as the acknowledged highest authority in all matters connected with Horticulture. Price 6s. 6d. per quarter in advance.

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March 1—3t. 420 Strand, London.

Cherry and Apple Seedlings.

CHERRY (15,000) of the Mazzard varieties, averaging about one foot in height, $10 per thousand.

Apple (90,000) at from $3 to $5 per thousand—one foot and over, $5 per thousand.

The above will be well packed and delivered in New-York, free of expense, on orders for 1000 or more accompanied by the cash.

PHILETUS PHILLIPS.

Middletown Point, N. J.—1t.*

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"We rejoice that it bids fair to become the standard Dictionary to be used by the numerous millions of people who are to inhabit the United States." *Signed by* 104 *members of Congress.*

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B. G. Northrop, A. Aldrich, Carlton Parker, *School Committee of Framingham.*"

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BY DERBY, MILLER AND CO., AUBURN,

THE AMERICAN FRUIT CULTURIST,

BY J. J. THOMAS,

CONTAINING directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the principal American and Foreign Varieties cultivated in the United States. With 300 accurate illustrations. One volume of over 400 pages, 12 mo. Price $1.

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In the volume before us, we have the result of the author's experience and observations, continued with untiring perseverance for many years, in language at once concise and perspicuous.—*Albany Cult.*

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Auburn, April 1, 1850.—3t.

BENNETT'S AMERICAN POULTRY BOOK.

The Poultry Book

And Fowl Breeders' Guide.

BEING a Treatise on the Breeding, Raising, and General Management of *DOMESTIC FOWLS*, with numerous original descriptions, and Portraits from Life. By John C. Bennett, M. D.

This work will be found to contain a greater amount of original and other information, both practical and useful, in regard to Fowl Breeding, than is contained in all other American works together. It will be illustrated with nearly FIFTY PORTRAITS of the most choice varieties of American and Foreign Fowls, some forty of which are from life, from drawings taken especially for this work, of the most important breeds, and several of them from Fowls very recently imported.

The publishers have spared no expense to bring out this work in a superior manner, both in regard to the engravings, the merits of the work, and the general execution of every part of the book. And it is believed that the work will be found to contain more Practical Information on *Breeding and Managing Domestic Fowls*, than any work issued in this country.

Price—in Muslin binding, 75 cts.; in Paper covers, 50 cts.

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Patent Rail Road Horse Power,

And Overshot Threshing Machines and Separators,

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Four years since, and less than a dozen setts were made and sold within this State, where last season, upwards of three hundred setts were made and sold, beside many in Pennsylvania and the Western States.

Farmers desiring to avoid the trouble, inconvenience and expense attending the employment of the ordinary lever powers and threshers, are requested to examine our terms, descriptions, machines, &c. before purchasing, or again employing the large machines.

For further particulars, see Catalogue of Albany Agricultural Warehouse and Seed Store, Agricultural Papers, and Reports of Agricultural Societies, &c., &c. H. L. EMERY,

April 1, 1850. Nos. 369 & 371 Broadway, Albany, N. Y.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per ann.—7 copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

Advertisements—The charge for advertisements is $1, for 12 lines, for each insertion. No variation made from these terms

THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND.'

NEW SERIES. ALBANY, MAY, 1850. VOL. VII.—No. 5.

Improvement of Old Lands.

How shall our Worn-out Farms be restored to Fertility?

EDITORS OF THE CULTIVATOR—A few days ago, an enterprising, inquiring young farmer, asked me the question—"How shall I bring up my poor old farm?"—As this question is often asked me, and being persuaded that there are many young farmers scattered about, who really wish to be told how to go to work with the means immediately within their reach for the improvement of their land, I shall now attempt to give the substance of my reply to the young farmer, so far varying it as partly to answer the general question propounded at the head of this communication. To advanced farmers, my remarks may be quite common-place, but it should ever be borne in mind that there are those behind that want to come along up.

I am aware that the course I am now about to advocate for the renovation of worn-out lands, involves, what, if you please, may be called a good deal of hard work; but, for wise reasons, it is our allotment, in any and all the various walks of this life, to be beset with difficulties that must be surmounted, and to reap our most substantial advantages and enjoy our choicest pleasures, only as the reward of patient and strenuous exertion. To all such as are unwilling to use the means within their reach for the improvement of their soil, because there is work in it, I would say:—You are not fit to farm it here in New-England, at least; and it would be better for yourself, and all concerned, that you should immediately abandon the business, and be at something else, or go west, where you may find a virgin soil, and enjoy the inexpressible pleasure of giving it a clean thorough skinning. The question very naturally arises here, which I will not now discuss,—Whether a diligent and careful husbandry of the means for making manure, and a liberal application of that manure to the soil, is not, in the long run, the *easiest*, as well as the most agreeable and profitable course of farming in this land of barrenness?

Much of our soil, under a long course of wearing tillage, has been deprived of its vegetable matter; and in supplying this material, we also supply valuable inorganic elements which are contained therein. We are led by observation to conclude that the presence of vegetable mould is a grand essential to fertility; we find that nature, every where, in making her choicest soils, endows them liberally in this respect; its presence makes the soil more permeable to heat and moisture and more retentive of the same; it keeps land from packing down too hard, and helps the roots of plants to penetrate and range about at pleasure,—to find that genial air, and health-giving water and pasture, which cause the crops to mature into bountiful harvests. The absorbent and retentive properties of vegetable matter, make its presence desirable in the compost heap, also; for there it imbibes and retains those liquids and gases of the manure, which too many of our farmers, from negligence, or the want of a proper appreciation of their value, permit to run to waste. So we see, that by gathering up the waste substances on our farms that are rich in vegetable matter, and mixing them with the excrements of our farm-stock, we not only return to our tillage fields an important deficiency, but with it, we also carry on rich fertilising saline matters, which would otherwise too often be lost. In other words, there are means within our reach, by which we may more than double the quantity, without detriment to the quality, of our manure.

The first material I shall name, is swamp muck. The farmer who has an abundance of muck at his command, who understands how to manage it, and is willing to go at it resolutely, may be sure of making his land productive. I know several men who, in a very few years, have added barn to barn, and filled them too, as the result of a vigorous and thorough system of muck-composting. To manage muck to the best advantage, the arrangements for draining the swamp should be so complete, that men and cattle need not work up to their knees in mud and water. This being done, a quantity of the muck may be got out into heaps on dry ground, to be used when wanted. It pays well to keep two years stock beforehand in these heaps. The atmosphere will act favorably upon the muck, and it will be lighter to handle and draw; it will also crumble down to a fine powder, mix up better with the manure, and more completely absorb its liquids and gases. It is also well to get a year ahead with the compost, for by giving it more age and ripeness, the gases of the manure will all be developed and absorbed by the muck, and retained in the form of salts, and that, in turn, will expel all acidity, and thus the compost will be very much more effective upon the crops.

A barn cellar for the reception of the compost should by all means be had, if the construction of the buildings and the shape of the ground will admit of it. A layer of muck a foot deep may in the fall be spread over the cellar bottom, and when enough manure has accumulated under the scuttles in the stable floor to make a coat over the muck of 7 or 8 inches, the same may be spread. Then another coat of muck and manure, as before, and so on. If it can be so contrived as to get a year's stock of manure ahead, the compost may remain in the cellar till after haying, and then, at leisure, be carted out into large compact heaps on the field where wanted. The heaps should be nicely laid up to prevent unnecessary loss by evaporation.

The most perfect way of composting muck, and, on the whole, about as cheap a way as any, is to have the planks of the cattle stalls just long enough for the animals to stand up or lie down upon, and immediately behind them let there be a trench, four inches deep and fifteen or eighteen inches wide. Into this trench, each morning, put a suitable quantity of muck, and all the liquid and solid excrements from the animals will fall upon it, and the whole, when thrown out, will be thoroughly intermingled. In this way, a very much larger proportion of the muck can be used than in any other, because all parts of it come into immediate and intimate contact with the manure-droppings, warm from the stock, and a powerful action at once takes place. A warm place may be provided in or about the barn to hold a number of loads at a time of the muck, and then it can be taken up on a wheelbarrow, and deposited in the trench. This may by some be called extra labor; but it comes at a season of the year when it can be done about as well as not, and a compost thus prepared, will produce extra good crops, wherever applied. I did this kind of work with my own hands two winters; I found that it took, on an average half an hour longer, each morning, to do the 'chores,' and I also found, in the spring, that my manure heap was very much larger and better by the means.

If a cellar is not to be had, at reasonable expense, the compost may still be made in the trench, and thrown out at stable windows, in the usual way. In this case, it would be a matter of economy, in the long run, to build a shed-range in front of the stable windows, to protect the manure from bleaching by storms, or evaporation by sun.

If the idea of a trench seems too particular and notional a mode of farming, the planks of the stable floor may be laid with an opening of one-half inch between them, and so arranged that they can be readily taken up, and a layer of muck of 2 or 3 feet deep thrown under, to catch and hold the urine from the stables. In the spring, this will be found to be strong and good. The solid manure may be thrown out at the windows and afterwards mixed with muck, in the yard or in the field. If in the field, it is a good way to draw the muck to the spot where wanted, and drop it in two winrows, as long as the heap is to be when done, with a space say of 6 or 8 feet between the winrows. Spread into this space, of the muck from each side, a suitable layer, and then drive up to the ends with the manure, and throw on a layer of it. Then another coat of muck and of manure and so on, until the heap is about five feet high,—the last layer being of muck. Two parts of muck may be used to one of manure. The heap should be laid up as lightly as possible, in order to promote fermentation. It should not be too high, for the bottom courses will not decompose, if too much compressed.

In the spring, the barn yard and sheds should receive a good coat of muck, which should be occasionally plowed and worked over, and carted out in the fall, and another coat supplied. Each cow, yarded at night through the summer and fall, will prepare for use at least six loads of muck. The borders or one end of the yard may be the highest, so as to afford a dry place in a wet time, or there may be another yard for such times. If the yard is very large, it may be well to divide off a part of it for summer use, so as to concentrate the cattle droppings, and lessen their exposure to evaporation. I find that the compost prepared under sheds, is much stronger than that made in the open yard; and I strongly suspect that it would be economy to have more shed room than most of us do.

The hog-yard must not be neglected. If possible, it should be so located as to receive the horse manure, and the washings from the house. Muck should be added at suitable intervals, and the hogs will show a specimen of workmanlike and thorough composting,—paying particular attention to tossing about the horse-manure, and mixing it with the other materials, so as to prevent injury from burning. Horse-manure, if left in a heap by itself, becomes almost worthless by over-heating.

Muck and unleached ashes, in the proportion of four or five bushels of the latter to a-half cord of the former, is a good compost. I have never failed of raising large, sound, mealy potatoes with a dressing of this kind liberally spread upon a light warm loam. This mixture also makes a capital dressing for grass ground.

Muck and good fresh lime, in the proportion of five cords of the former to a hogshead of the latter, (my hogsheads hold seven bushels each,) is a good compost, for either corn, potatoes or grass. A layer of six inches deep of the muck is spread down, and the lime is slaked to a dry powder as fast as wanted, by sprinkling on just water enough for that purpose, and immediately scattered over the muck; then another layer of muck and of lime, and so on, till the whole is mixed. It is better to crumble the lime to a powder than to put it on in lumps, because it becomes more thoroughly intermingled with all the muck, and if slaked no faster than wanted, and if put on immediately, while yet warm, there will be heat enough to produce a powerful fermentation at once. The best of fresh lime is the cheapest; for it will make more than twice its bulk when dry slaked, and its action upon the muck is immediate and strong.

In composting muck with either lime or ashes, the best success will depend upon the care and precision exercised in mixing the ingredients. The layers of muck should not exceed six inches in thickness, and then the alkali will penetrate them in every direction, and all acids will thus be neutralised. Complete fermentation will be the most surely secured if the heaps are made up in hot weather,—as every one knows. Whenever I want to use more manure than I can make with my stock, as is frequently the case, I had rather depend upon these two composts than to be at the expense of the purchase and transportation of manure from abroad.

If the farm does not afford muck, other materials may probably be found, with which to save the volatile and liquid portions of the manure, as well as to increase the heap. The extra accumulations of leaves and vegetable mould in the hollows and at the foot of hill-sides in the forest, may be dug up with profit. I collect more or less of this material every year. In the latter part of November, and until snow falls, it may be dug up with stout hoes made for the purpose, and with a wheelbarrow, put into a heap or heaps convenient for hauling to the barn and yards, in the winter. It is so light as never to freeze more than two or three inches, and can therefore be handled at any time. It may be managed agreeably to the directions heretofore given for the treatment of muck, with this difference,—being free from hurtful acids, it is much sooner fit for use. It would not be advisable to take off this vegetable mould indiscriminately; but there are places where it gets to be four to six inches deep, and if taken off, a sufficiency for the wants of the trees will soon accumulate again. In such instances, the deposites are probably worth more to the tillage fields than to the forest. Often, too, a stone wall or a rail fence, bordering a wood-lot, will be half buried by an accumulation of leaves in various stages of decay. Such deposites should be sought out and turned to good account. Last season I applied a compost, made of this vegetable mould and lime, to my potatoes, and I never raised better ones. They came out in the fall large and clean, have kept well, and cook finely.

Rich, thickly matted turf may be used for manure. It should be dug about two or three inches deep, and placed in the yard in the spring, and frequently plowed and pulverised during the summer, and in the fall carted out and a new layer supplied. The hogs like it in their yards, and it is healthy for them. A lot of it may also be dug up and piled by itself, to rot, and then it can be more readily incorporated with the manure from the stables. If the road-side does not afford good turf, it may be taken up near the fences in the fields. Where the farming has been bad heretofore, there will be high ridges or headlands beside the fences, and these may be taken to the yards. Then there are hollows in the pasture and elsewhere, that receive more than their share of the riches of the farm; and by taking a portion from them to the compost heap, and from thence distributing it back to the fields, the farmer may perhaps find his income increased.

All waste vegetable substances, wherever to be found, should be gathered up and brought to the yards. A systematic saving of this kind, amounts to a very important matter, in the course of a year. In short, *something* must be used to absorb those portions of the manure in the stables and yards, which are too often allowed to escape beyond reach.

To bring up a worn-out farm rapidly, such a rotation of crops should be adopted on the tillage fields as will give each of them a dressing of manure at regular intervals, and those as frequent as possible. The depth of furrow should be gradually increased, bringing up an inch or two of the poor lower stratum at each breaking up, until a surface soil of uniform quality, of nine to twelve inches deep, is obtained. The compost should be spread on the top of well-turned furrows and harrowed in, and the land planted to whatever crop it is best to raise. The next season, the surface should be levelled and made mellow, without bringing up the sod, and sowed to grain and grass seed. The decomposing sod beneath will furnish food for the growing crops; it will keep the land lighter and mellower than would a half-dozen plowings and cross-plowings in the spring; it will hold moisture for the use of the young grass for several years, in consequence of the vegetable decompositon beneath. Grass-seeds should therefore be scattered bountifully at seeding-time, for thus the soil is filled with the kind of vegetation wanted, and a richer turf is formed with which to enrich the land at the next plowing. Clover should be profusely mixed with the other grasses, for by its system of large tap-roots it fills the soil, draws up a good portion of its sustenance from below the reach of the other grasses, and the decay of its roots improves the surface soil. None of us like clover for hay so well as some other grasses; but while our farms are poor certainly, and our object is to improve them, we cannot dispense with the advantages arising from the liberal sowing of it.

I have often thought that if I had a poor farm to bring up, I would not at first attempt to raise much grain. In August or September, I would turn over as much of mowing-land as I could manure with 12 to 15 loads of compost per acre, spread the compost on the inverted furrows, and re-seed immediately to grass, without taking a grain crop. This dressing would probably improve the land as fast as 25 or 30 loads per acre would, if it were planted one year and sowed to grain the next, in the usual way; and thus *all* my tillage land could be sooner brought to doing something to remunerate labor.

Worn-out pastures, level enough to plow, may be improved as fast as leisure can be found to turn under two crops of buckwheat in a season, and then sow rye in the fall, and grass seeds on a late snow in the spring,—the rye to be fed off the following season, while the young grass is getting root. The rye should not be taken off in the form of a grain crop, for that would sap the land and defeat all improvement. In the immediate vicinity of large villages, where pastures and pasturage are scarce and high, this kind of management would pay well.

Steep unproductive hill-sides may be put into a more productive condition by planting them out to wood and timber; and in this day of rail roads and steam mills, no improvement can be made in some localities, that will, in the end, pay a better interest. If planted to trees, these lands lay in a state of rest, soon the annual fall of leaves adds fertilizing matter to the soil, the rains do not wash them so much as before, and thus they are gradually restored to fertility. If poor hill-sides are wanted for pasturage, they may be much increased in productiveness by planting out here and there the common white locust tree. It will improve the land and the quality of the feed in a very few years.

Finally, there are numberless methods by which our poor old farms may be improved, and that too, in a way that shall pay as the improvements proceed. I have taken up a subject that hardly has limits; but I will pursue it no further at this time. I will merely remark, that close observation, diligent study, and patient but strenuous industry, are the essential requisites to good farming in our older settled districts of country; and with these, the farmer need not fear any rivals, no matter from what quarter they hail. F. HOLBROOK. *Brattleboro', Vt., March* 4, 1850.

Improvement by Draining.

Underdraining.

EDS. CULTIVATOR—The subject of draining does not as yet appear to be thoroughly understood by a great many farmers. They suppose that they have done all that is necessary in this matter, when they have furnished a furrow, or shallow channel sufficient to draw off the surface-water before it rots the seed, or scalds out a young crop of corn or other grain. I believe the want of suitable drainage, is the most common cause of the failure of crops; yet the disappointed husbandman is often seen looking around him in vain for some more remote cause, sufficient to produce the effect. We are familiar with the many causes assigned for the repeated failures of the potato crop; but any person who has observed the careless mode of cultivation adopted with this vegetable, will not hesitate to assign, as the original cause, the damp vegetable mould, so often selected for the potato patch. It has been a common practice with farmers to plant that portion of the field to potatoes which was too wet for corn. When we add to this, the fact, that the seed used, has been raised in the same way, and that the same process has been continued for many seasons, we need not be surprised at the result. It is more than probable that the rapid degeneration of grains, grasses, vegetables and fruits, of imported varieties, is owing to a want of thorough drainage more than to any unfavorableness of climate. Orchardists have not failed to observe the poor quality of the fruits of acknowledged excellence, when raised on cold damp soil.

Not only the surface of the ground should be drained, but some plan must be adopted which will effectually remove all unnecessary moisture from the subsoil, to the depth of at least two feet. Open drains or ditches should not be entirely dispensed with. They are necessary to furnish a rapid passage for the surplus waters in the spring, and to prevent the flooding of cultivated fields by the overflow of upland swamps. An open channel is also necessary when some lawless brook is required to forsake the crookedness of his ways, and flow in a direct line. The smaller drains should be covered, to afford an unbroken surface to the plow.

A cheap method employed in Europe is as follows. An ordinary ditch is made about two feet deep and fourteen inches wide at the bottom. A channel eight inches in width and depth, is cut in the bottom of the ditch. A rope of straw slightly twisted, and of sufficient size to fill the channel, is placed in it; the earth is then shovelled in, and the drain is completed. The offsets between the two channels, are intended to aid in sustaining the superincumbent earth. The water will continue to filter through long after the straw is decayed. Could not the channel be filled with coarse clean gravel, as a substitute for straw?

If a larger quantity of water is to be discharged, a good drain may be made of pine or hemlock boards. Slit them to a suitable width, say nine inches, then with a common paint brush, cover them on both sides with tar and rosin melted together; nail them in the form of a prism, place them at the bottom of the ditch, and cover with earth, as already described. Or the passage may be made by placing a row of brick edgewise, on each side of the ditch, and cover over with a layer of brick placed crosswise, which would require one hundred bricks to the rod; or if a layer of bricks is required at the bottom, it would take 150.

The draining tiles lately introduced, are a decided improvement. Each farmer will of course decide upon the material to be employed,—whether wood, brick, glass, tiles, or iron. But let your fields be thoroughly drained by some method, as the first point to be attended to in successful farming, and then by careful plowing, improved manures and a proper succession of crops, you will receive the reward which the bountiful earth bestows upon *intelligent labor*. D. D. C. *Geneva, April*, 1850.

Draining.

EDS. CULTIVATOR—I am not ignorant of the use of *stone* and *tiles* in draining. Without meaning to decry the use of either, and admitting that, in some circumstances, they are the most eligible materials for this purpose, I yet wish to describe another mode with which I am familiar, and which I have practiced with great success. The main material of my plan is hemlock lumber, in the shape of board and scantling.

1. *The ground to be operated upon.*—My upland grounds are sandy, and slope off into a swamp with a clay and clay-gravel subsoil, which also probably underlays the upland, as, just upon the brow of the side-hill, the water oozes out from beneath the sand, making the low land very wet, since, from the nature of the subsoil, the surplus waters cannot subside readily. The object of my draining is to carry off the water from the side-hill across the low ground.

2. *General course of the Drains.*—I first made main drains from the hill, starting usually in some gully or natural ravine, and following the lowest ground, and so across the field. I tried to make other drains, intersecting these, and at nearly right angles, on the brow of the hill, but, from the spongy nature of the soil, I was only partially successful. Some of these last drains needed to to be tapped in the centre, by running a branch directly down the hill to the nearest point of the main drain, to prevent a fatal dripping down the brow of the hill.

3. *Mode of Construction.*—I dug my ditches from two to three feet deep, so as to have them below the frost and the subsoil plow. Sometimes it was needful, in crossing some point of land that made out into the desired course of the ditch, to dig much deeper for a short distance.

They were usually made about one foot wide at the bottom. Where the ground was soft, I frequently could dig but a rod at a time, before it was needful to lay the drain to prevent the sides from falling in. Occasionally it was convenient to begin the ditch at the upper end. Suppose a considerable portion of ditch dug, I laid my materials thus. If the ground were much descending, or the bottom were of loose sand or filled with sticks, I made it as level as possible and then laid down my boards, end to end fitting the ends pretty accurately. But if the ground were nearly level, and a firm clay or hard-pan, I used no board in the bottom. Upon this board or hard-pan I placed my scantling, which were sawed 2+4, and were set in the narrowest side. I was careful to have the scantling break joints with the boards, as this would prevent the work from settling unequally. These scantling were placed, for the widest drains, 6 or 8 inches apart, and for narrower, three or four. They were tacked at the ends with nails to hold them firm. The top board was then laid on, and nailed with about six nails if twelve feet in length. Care should be taken always to have the top board sound and free from bad shakes, as it has to sustain a considerable weight. The water way also should be carefully cleared of all sticks and loose stones. Where the amount of water is large, and especially when the drain descends a hill, I leave the ends of the scantling a half inch apart, and saw them off sloping, so that an orifice is left open pointing up hill. A grass sod should be laid close to the scantling below this orifice. In case the end of a drain is at a spring or bed of quick sand, it will be needful to guard it, otherwise some beds of quicksand will discharge large quantities of sand in a short time. This guard may consist of loose brush fixed firmly around the opening.

Generally, I take no pains to lead the ordinary water along the course of the drain into it, as it is sure to find its way through the chinks between the boards and scantling. Side drains are united to the main one by sawing out a few inches of scantling on one side of the main drain, and bringing up the end of side drain snug. Where a drain is laid deep, and in very heavy soil, I prefer not to throw back the soil just as it came out, but to mix muck with it to make it porous.

Results.—I have laid, during the last five years nearly two hundred rods of such drain, and have had but a single failure. That was of a side branch running down a steep hill. The meadow moles had dug in at the head during the winter under the snow, which melting in the spring, deluged the drain, and carried so much sand down to the junction as to stop it up. It was readily and cheaply repaired.

By means of these drains, I have reclaimed six acres of ground, some of which was a shaking quagmire, so that it is now good tillable soil.

Expense.—I make no estimate of expense. The price of digging will vary greatly with circumstances. The price of lumber will vary also with place. Suppose the boards to average ten inches in width, they will, with the two scantling, make fifty feet of lumber, board measure, to the rod. The cut nails will cost but little. Nor is the work of laying difficult—less so, I think, than with any other material. The care of wise location, and of faithful and judicious construction, will be nearly the same, whatever be the material. When the lumber keeps wet, as it is likely to do in my case, it may be expected to last a great many years. My greatest trouble is with the meadow moles, which seem to choose the soil over the ditches on account of its deeper, dryer, and softer character, and because their prey is more likely to abound in such a locality.

In a country where lumber is cheap, I think this drain could be made more cheaply than any other, in permanently wet ground. It will be less liable to choke with sand than any other, and less liable to incidental injury from cattle, plowing, and the stroke of a crowbar, or the subsidence of the soil. And should the top-board, by any means be split and settle, it could hardly endanger the current of the water.

This drain, as every other, needs to be carefully watched at the mouth, lest it should choke with the sand, which will always flow down in greater or smaller quantities. C. E. G. *Utica, March,* 1850.

Bean and Pea Culture.

The Culture of Beans.

Eds. Cultivator—At your suggestion, I give you my views of the bean crop, and my mode of cultivating it.

I appropriate to this crop my light land, either of gravel or sandy loam, from which I should not expect a full crop of corn; although it may be advantageously put upon land which will give 35 to 40 bushels of corn per acre.

I prepare the ground as for a corn crop; get the surface smooth by harrowing or otherwise, then mark it with a marker, making three or four marks at a time. I usually mark two and a-half feet apart, but have no doubt they will do well at two feet. I then plant with a drill-barrow, following the track of the marker, by which I get straight lines and uniformity of distance. I plant twelve to fourteen quarts of seed to the acre, which I find abundant. More would injure the crop, by making the plants too thick. I now use Emery's drill barrow with which the beans may be planted with almost perfect uniformity. That machine may be regulated to drop any quantity of seed desired, which I determine by trying it upon a smooth piece of ground or upon a floor. Three to four beans in a foot are enough.

The time of planting must depend on the locality; a frost after the beans are out of the ground destroys them. They will ripen in ordinary seasons with me, if planted at any time before the 8th of June; but the 20th of May would give a better crop, if they escape frost in the spring.

At the usual time of hoeing the first time, I turn my sheep upon them—if there is much grass or weeds among them—keeping a pretty strict watch upon them, turning them off as soon as they begin to take the beans, which they will not do until they have despatched the grass and weeds. They should not be turned in when very hungry, or they will take beans and weeds together for a while.

As soon as the weeds and grass have made considerable progress again, I again put on the sheep. By this time the beans are 6 or 8 inches high. I then go through with a double mould-board plow, so set as to throw the furrow on both sides well under the rows, or, which is as well, use a cultivator with a double share in front, and half shares in rear, on each side turning outward. This I have found sufficient cultivation. If the weeds come up again, I put on the sheep again, after which the beans will so cover the ground as to take care of the weeds themselves.

I let the beans stand until they get so ripe and dry that I can pull one day and thresh out the next, and often pull in the forenoon and thresh in the afternoon of the same day, which is better, as I avoid the risk of rain, which can hardly fail to injure them after pulling. I so divide my force as to thresh as I haul in, as they soon grow damp if heaped in the barn, and they then cannot be threshed clean without bruising. Care should be taken if they are not well dried in the field, to dry them after threshing. They should not be threshed in a machine, but with a flail.

A man will pull three-fourths of an acre in a day, and will haul and thresh about the same quantity. They are usually ready for harvesting by the middle of September. Frost does not hurt them after ripe.

I lay them in heaps as I pull them, as large as a bushel basket or less, and in rows far enough apart to drive a cart between.

The cost of the crop is about as follows:

Plowing, harrowing, and marking, per acre,	$1 75
Planting, with horse or man to draw machine, at say, 6 acres per day, at twenty-five cents,	25
Plowing or cultivating between rows,	30
Harvesting, including use of team, say,	2 50
Seed,	50
Add for contingences 10 per cent.,	53
	$5 83

The feed for the sheep is more than a compensation for turning them in and out. Light land will give from 12 to 25 bushels per acre, depending upon the season and fertility of soil. The price of a good article is from $1.12½ to $1.50 per bushel. The small round bean, called the "*pea bean,*" is preferred in market.

If some are not fully ripe at harvesting, they must be thoroughly dried, or they will be discolored and injure the sample and the price. And as it is difficult to dry them on the ground, from risk of rain, which will be sure to injure them, more or less, I thresh them so lightly as to leave the green ones in the straw. I take care to save the straw, which I feed to cattle. Sheep are fond of the dried pods, but will not eat the straw as well as cattle. If harvested as soon as ripe, the straw, if well taken care of, will pay one-half the cost of cultivation.

The bean sends its roots deep in the ground, and exhausts the soil less than almost any other crop. Through its broad leaf, it draws largely upon the atmosphere for its growth. I have found a sensible difference in favor of the crops following beans, over those following grains. S. Cheever. *Bemis Heights, Saratoga County, March,* 1850.

The Culture of Peas.

Eds. Cultivator—In the northern section of our country, we consider peas a profitable crop. We deem them a highly nutritious food for animals, and reckon them worth as much per bushel for fattening hogs, as corn. The crop leaves the ground clean and mellow, furnishing an excellent preparation for other crops, especially wheat. We sometimes sow them with oats, in the proportion of one-third peas to two-thirds oats. The peas and oats, ground, are excellent food for horses, cattle, sheep or swine. A variety of peas which has rather a light vine is preferable, as the ranker kinds are apt to overrun the oats, and lay too close on the ground, but the straw of the oats will hold up the lighter ones, so that both the oats and peas will fill well.

A loamy soil, rather inclining to clay, is best adapted to peas. Early sowing generally gives the best crop. Very hot weather is unfavorable to their filling, and it is hence advisable to have the crop well advanced before the hottest part of the season comes on. A sod which was plowed the previous autumn, well harrowed, makes a good bed for peas, but any good sward, well broken up and mellowed, will answer—and if sod ground cannot be had, that which has been under cultivation one or more seasons may be taken. No manure is generally needed; but if any is put on, it should be a small quantity of that which is thoroughly rotted, spread on the furrow and harrowed in. A large quantity of manure, or that which is in a green state, makes too great a growth of vines and tends to blight.

The quantity sown per acre varies somewhat with the kind of pea, some being of a more spreading growth than others, and requiring less seed. It is usual also, to sow a larger quantity of very large peas, than of small ones, because the number of peas or germs is greater in the same measure of small ones. The large marrowfats, for instance, are double the size of some others. From three to four bushels of seed per acre is the quantity usually sown.

The covering of the seed is best performed by a small plow, or by a cultivator. It is difficult to bury peas with a harrow, many being always left on the surface, where it is attempted. A depth of about two inches is the proper one for covering. A good way is to pass the harrow over the field after the peas are sown, which will prevent them from rolling into rows or bunches, and then plow them in with a shallow furrow. The varieties adapted to field culture are the Canada field pea, the marrowfat, and the black-eyed pea. The yield on good soil is from twenty-five to forty bushels per acre.

To destroy the pea-weevil, or bug, which in some sections is so troublesome, immerse the peas in water, boiling hot, for two minutes; then take them out and mix plaster, dry ashes, or slaked lime with them, till they will separate in sowing or planting. No fears need be entertained that the hot water will prevent the peas from vegetating—not one in twenty will be hurt at all. T. M. *Essex county, N. Y., March*, 1850.

PARSNEPS FOR PIGS.—The *Sussex* (Eng.) *Express*, says, "at our farm we have been in the habit of employing parsneps for this purpose for some time. Upon reference to our books, we find that on the 11th of October, 1847, we put up two shoats of eleven weeks old, and fed them on skim milk and parsneps for three months, when they were killed, weighing 231 and 238 pounds. They were well fattened, firm in flesh, and the meat of excellent flavor. The quantity of parsneps consumed by them was nine bushels each.

☞ If a man could have half his wishes, he would double his troubles.

Vegetable Physiology.

Motion of Sap in Plants.

EDS. CULTIVATOR—I herewith send you some thoughts and facts upon the flow of sap, which were addressed to me by a respected friend,—a man of science, who has given to nature a wide observation. I have read his manuscript with much satisfaction, and think its publication in *The Cultivator* would afford equal pleasure to other readers. F. HOLBROOK.

Motion of Sap. Not circulation—suspension in winter—in spring, what causes its ascent—peculiarities of different plants, as birch, butternut, beech, oak, sugar-maple and grape—wonderful.

In the human body, the *arteries* carry the blood from the heart to the extremities, and there, *veins*, beginning in extreme minuteness, take up the blood and return it to the heart. In the arteries, the blood is passed by pulsations; in the veins, it flows with a slow and insensible stream. From the blood is taken out, at the extremity of the arteries, the portion necessary to nourish the body; in the veins flows the unused blood, which is mixed on its way, with the wasted and lifeless matter taken up by the absorbents from every part of the system; and the venous mass is thrown by the heart through the lungs, to be purified and fitted for its object. This is a real *circulation* of the blood.

In plants, there are vessels in the outer part or wood, to carry the sap into the leaves, or to the surface of leafless vegetables, where the sap is formed into *latex* or nutritious matter; which then is passed down the vessels in the inner bark to be conveyed by the *medullary* rays inwards through the wood, and even into the pith, to support the whole by its nutriment. There is not a real circulation of the sap.

By the vital operations of the plant in summer, the leaves and stems are gorged in autumn with nutriment; the absorption by the roots and leaves is diminished; the evaporation from the plant diminishes, and less is absorbed by the roots; the motion of the sap slackens, and finally nearly ceases in winter, as the requisite compounds have been produced in the plant. The vegetable world nearly suspends its operations in winter, as if resting in preparation for the active energies of spring and summer. The elaborated sap or nutriment has merely descended to its needed places, and wood, starch, oils, gums, &c., have been formed. No descent of sap into the roots.

In the autumn and winter, the roots have shot out new *radicles*, terminated by a sort of mouths, to take up the matter, that is, the sap, from the earth. In the sugar maple this sap is sweet.

As the frost is leaving the earth, activity is seen in the roots, and the sap ascends through the plant, even to the buds, which are to form the leaves and flowers. The immediate cause of the ascent is not understood. The heat and light stimulate the buds into action, which uses up the contiguous sap, whose place is supplied by the ascent from below.

Besides this, there may be another reason, viz: the expansion of the vessels, enlarging the spaces, and more than all, the operation of *life*, whatever that is.

Some kinds of wood are more compact in winter than in summer. The observing farmer long ago found that a barn floor of frozen and green hemlock plank will be more close than the one put down from the same plank, unfrozen, in summer. The frozen plank, full of sap, evidently enlarge as the frost leaves them, and they continue to expand by the heat.

This contraction when frozen, and expansion by warmth, is always transverse and never lengthwise. In length, green and seasoned timber, fit and preserve their fitting, when mixed in a frame, perfectly well.

There is a great difference in trees, and shrubs, and herbs, in their bleeding, as it called, when cut, and that difference is not yet explained. Cut off a twig of Lilac, Poplar, Elm, Oak, Pines, White Birch, &c., and very little sap will flow out in the spring, or at any season. Cut off a twig of some grapes, and the sap will flow in profusion in May and June. Cut down a Yellow Birch in winter, and no sap will flow from either part; but, when the frost is wholly out of the ground, that stump will throw out a great quantity of sap, containing no sugar, for many weeks. The activity is in the roots alone, for the trunk and leaves are not there, nor any expansion above to lead up the sap. It is the activity of life. The stump of the oak, elm, beech, &c., operate not at all in this manner. But, if an incision is made in the trunk of a Yellow Birch, while the stump of the other is flowing, sap will issue in abundance from the incision, and only a part will ascend into the limbs.

If the Butternut is tapped when in frozen ground, the sap flows abundantly till the ground is thawed, when it wholly ceases. This tree is late in the spring, in showing any action in its buds. The life in the roots would seem to be the moving power. It is well known that this sap yields a bitterish sugar, having the butternut taste, and quite cathartic. A coloring matter, rather nauseous, is also in it.

The Sugar Maple, being tapped, sends forth abundance of sap when the ground thaws by day and freezes by night. If the freezing does not occur for two or three nights, it yields no sap; but if the freezing occurs, the sap runs abundantly. Hence, if a snow falls at this time, and the cold affects the earth to freezing, so great a rush of sap follows, that this is usually termed a *sugar-snow*. When the freezing ceases, the sap no longer runs from the orifice or incision, but there can be no doubt it flows from the roots to the extremities of the tree in profusion.

When a root of the Sugar Maple is cut in the time of the running of the sap from an incision, the sap flows out from both ends of the severed root and its severed parts. This fact has been lately proved by actual experiment, and the sap from each part found to be sweet.

When an incision is made in the maple in sap time, the sap flows chiefly and nearly entirely from the upper side of the cut. This proves that it is the sap, already ascended into the trunk, which runs downwards and outwards by the incision. Does not the freezing of the ground compel the sap upwards into the tree, and detain it there so that it can be discharged by descent to the cutting made in the tree?

Cut off a twig of the common cultivated grape after the frost is out of the ground, and like the Yellow Birch, the sap will run for weeks. A tube has been fastened tight around the cut part, and the sap flowed to the height of twenty feet in the tube. In this is seen again the operation of that mighty principle, *life*.

These differences are great and wonderful. How little is known yet of the causes of diversity. The subject is worthy of experiment and observation, only let there be *care* and *certainty* SACCHARINE.

Neglected Manures—No. 5.

Bones, Ivory Dust, Horn, Wool and Hair.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., April, 1850.

EDS. CULTIVATOR—In addition to the method for dissolving bones by means of sulphuric acid, mentioned in my last letter, I ought here to say a few words respecting a new process for reducing bones, which has attracted a good degree of attention in England. Steam is the agent employed. A boiler is made for the purpose, capable of bearing a pressure of from 30 to 40 pounds per square inch; in the lower part is the water box; this has a floor above, on which the bones are placed, and exposed to the action of the steam. According to the method which seems most advisable, a pressure of 25 to 30 pounds of steam is given for 24 hours. At the expiration of this time the charge is withdrawn, and the bones are found to be in such a state, that they can easily be crushed to a fine powder with a mallet.

This powder is said to produce remarkable effects upon turneps and other crops, even when applied in quite small quantities. By the continued steaming, every portion of the bones is brought into a very readily decomposable state, so as to be available at once for plants. The water which remains in the boiler, has a certain portion of gelatine from the bones dissolved in it, and of course should be saved, for sprinkling over the land as a top-dressing, or to mix into a compost heap.

In order to prevent the gelatine from decomposing, and to avoid the consequent loss of ammonia that would ensue, it is recommended to mix salt with the powder before it dries. This also, in most cases, materially increases the value of the manure because it adds still another ingredient to the soil.

The effects of this manure have not as yet been fully tested, in comparison with the other forms of bones mentioned, but during the coming season there will probably be extensive experiments. I have mentioned it here, that farmers may know what is meant by steamed bones, and may appreciate any results obtained by their use.

I have lately had some of the ivory dust from comb factories, sent in for examination; it has been analysed by Mr. Crane, one of my assistants. He found it to differ in composition from ordinary bone, as to its amount of phosphates. The following table gives the result of Mr. Crane's analysis, as compared with two by Dr. Thomson, on other classes of bones.

	Bones of a Sheep.	Bones of a Haddock.	Ivory Dust.
Organic matter, or gelatine,........	43.3	39.5	37.7
Phosphate of lime,..................	50.6	56.1	56.1
Carbonate of lime,..................	4.5	3.6	3.9
Carbonate of magnesia, with a little potash and soda,..................	1.4	1.6	1.5
	99.8	100.8	99.2

This agreement in the composition of ivory with that of dried fish bones was quite unexpected to me, and is really very remarkable. In both, there is considerably more phosphate of lime present than in other bones, and their value as permanent manures is of course greater. The above is one of those singular coincidences that we often find in chemistry. It would not be supposed that ivory, so compact and so hard, was so positively identical in its composition with soft and brittle fish bones.

The ivory dust of the comb, and other factories, where it is produced, is an extremely valuable manure. It is already reduced to a fine powder, and is therefore much better for plants, just as bone dust is. This dust is also easily dissolved by acids if necessary, a much smaller quantity effecting the solution, than is required for the whole bones.

I have heard in one or two cases, complaints that this manure, and other forms of bones, injured the land after a time, but found on inquiry that the evil was produced not by using bones alone, but by not using at the same time other manures. Phosphoric acid and lime are valuable constituents of a soil, but they are not all that it needs. The farmer who cultivates judiciously will supply *everything* that is necessary, and not attempt to keep up his soil by giving it two or three only, of the numerous substances required. If farm yard manure in moderate quantity, had been applied with the bones, no injurious results would have been experienced.

Still another form of manure, which resembles bones in its composition, is horn. This, according to some examinations which I have made, contains when dried, about 40 per cent of phosphates. Horns are nearly indestructible in the soil, and cannot well be ground in mills, from their softness and toughness. The proper way to treat them would be with sulphuric acid, or to powder them by the steaming process mentioned above. In either case, they would make a most valuable manure. Near many factories, there are large quantities of horn shavings to be had, and they should always be secured at once by the farmer as an article of much value. Their decomposition in the soil is quite slow, but their effect is powerful, and of course quite lasting.

For fear of surfeiting my readers with various forms of bones, and the virtues of phosphates, I will now pass on to some other class of fertilizing substances, that are suffering under unmerited neglect. Unfortunately, these are not difficult to find in almost any part of the country.

One of the manures most highly valued in England and in Europe, is found in hair and wool. These are of similar composition. They contain but little ash, only from one and a-half to about two per cent. This ash consists chiefly of chlorides and sulphates of potash and soda, with small quantities of phosphates. Sulphur is a substance which exists quite largely in these parts of the animal, amounting usually to about five per cent.

From the small proportion of ash, it is evident that we must look to the organic part, in explaining the remarkable effect which these manures produce under nearly all circumstances. On analysis of this part, it is found to be particularly rich in nitrogen, containing about 17 per cent. This is sufficient at once to determine its value. Much of our ordinary farm-yard manure does not in its whole bulk, contain more than three or four per cent of this body, and yet it has a great influence in enriching the soil.

How much more powerful must this class of manures be, in which is four or five times as much nitrogen as in barn-yard manure. The farmer is always safe in concluding that a substance, in whose composition an analysis shows more than eight or ten per cent of nitrogen, is a very valuable and concentrated manure; always provided of course, that it contains nothing beside likely to be actually hurtful in its nature. When the per centage of nitrogen ranges as high as in the present case, about 17 per cent, he may rest assured that he has found a manure of the most powerful description at present known.

So far as my information extends, hair, refuse wool, and all substances of a like nature, are almost entirely neglected in this country. I have known of many cases, where they were completely thrown away. In the neighborhood of woolen factories, for instance, all the refuse and waste of the mills is of great value as manure. Besides the natural constituents of wool, it is saturated with oil and grease, which increase its fertilizing power.

This refuse does not of course contain as much nitrogen as the clean wool, or hair would do, owing to its admixture with dirt and other foreign substances. Some recent analyses by Prof. Way, of the Royal Ag. Society, show that in the better samples, there is ten or eleven per cent. These cost in England from $15 to $20 and sometimes $30 per ton, and are found a very profitable application at such prices. The demand there is so large and constant, that it has led to adulteration in various ways; linen and cotton rags, or clippings, among other things, are mixed with the woolen. Prof. Way found that some samples which appeared well to the eye, were really not worth more than from $4 to $8 per ton, in place of $20 or $30.

Woolen rags decompose very slowly in the ground, and for this reason, disappointment is experienced in their effect on crops that require a speedy and powerful fertilizing action. They are most used for the winter grains, and for other crops that occupy a long period in their growth. The hop-growers of Kent and other counties of England, rely on woolen waste, and rags, as one of their most important manures; they bury it under the hop vines, and the influence continues in a most efficacious manner, for a number of years.

In some situations, hair of various kinds may be procured, and should always be carefully preserved; its composition being, as noticed above, the same as that of wool. I noticed in North Lincolnshire, England, an application of what they called cony dust. In clipping rabbit skins to obtain the fur for hat bodies, there is much waste of hair, and this with clippings from the skins, is swept up and sold at a high price, under the above name. It is used for turneps on light soils, at the rate of from 10 to 20 bushels per acre, and produces excellent crops. In the instance that I saw, they were dropping it in the bottom of drills.

Where the refuse hair from tanneries could be obtained, it would also be an excellent manure; the lime which is usually mixed with it adds to its value, though making it decompose much more rapidly.

I have now, perhaps, said enough to call attention to this class of manures, and to convince farmers of their efficacy. They are not within the reach of all, and those who are in a position to obtain any of them, will, if they understand their own interest, take steps to prevent any further waste, by securing as much as possible for the enriching of their own fields. JOHN P. NORTON.

The Veterinary Department.

Ringbone in Horses.

EDS. CULTIVATOR—In answer to your inquiry concerning ringbone, we define it to be an exostosis, or bony tumor, originating from a bone. It is situated on the small pastern, (called *os corona*,) between the shell of the bone and the periosteum covering it. Sir A. Cooper calls a tumor of this nature, *cartilaginous exostosis of the periosteum.* "It originates in a deposition of cartilage, of a very firm texture, and similar to that which forms the nidus of bone in the young subject. The periosteum adheres to the external surface of the swelling.

Thus, on dissection, we discover—1st. The periosteum thicker than natural; 2d. Cartilage immediately below the periosteum; and, 3d. Ossific matter deposited within the cartilage, extending from the shell of the bone nearly to the internal surface of the periosteum, still leaving on the surface of the swelling a thin portion of cartilage unossified.

Consequently, when ringbone has been formed in this manner, the shell of the original bone becomes absorbed, and cancelli are deposited in its stead. In the latter stages of ringbone, (provided the natural process has not been interrupted by the firing-iron, &c.) the outer surface acquires a shell resembling that of the bone itself. A ringbone is composed of a cartilage for its basis, and an earthy salt or phosphate of lime. This fact may be easily demonstrated by steeping the bone in acid, for by this means, it is deprived of the phosphate of lime, and the cartilaginous structure remains of the same form and magnitude as the diseased deposits.

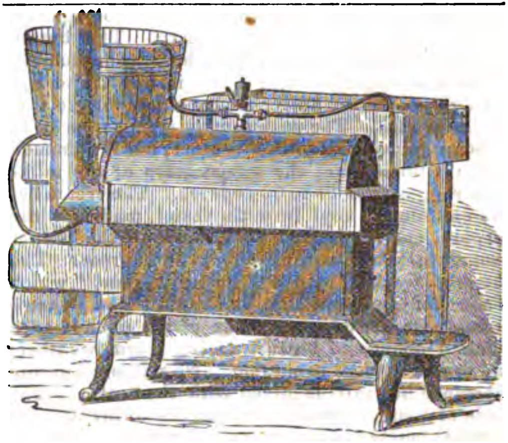
So long as a ringbone is confined to either of the pastern bones, it is of little consideration; for it does not occasion much inconvenience to the animal; but should it show itself near one of the joints, it seldom fails to produce lameness, which is often of a permanent nature. When this disease invades ligamentous structure, lameness generally accompanies it, probably on account of the tenderness of the parts. Ringbones, splints, spavins, and other bony deposites, though of great size and quick growth, are often unattended with lameness. I never knew of any "bladder" to be found in the situation alluded to by your correspondent. There are in the region of tendons small bursæ, or sacs, formed of a tendinous expansion, and lined by a membrane similar in its texture to the synovial membrane of a joint; which like it, secretes and contains a fluid resembling the white of an egg; this fluid facilitates motion between parts moveable on each other, by preventing friction; how this "bladder" can "feed ringbone," I cannot conceive; for windgalls, which are nothing more or less than enlarged bursæ (situated at the lower part of the canon, or shank-bone,) exist for years without any enlargement of the bone. "Mr. Cole recommends the extraction of the bladder." I had the pleasure of a visit from that gentleman this morning, and he stated that the article referred to was compiled from a work on that subject, without any personal knowledge of his own; I showed him several specimens of bony deposits, and he feels satisfied that my definition is correct.

Various remedies have from time to time been resorted to for the cure of ringbone, and without success. I know of nothing that tends so much to produce absorption and diminish lameness, as counter irritants. The removal of ringbone by an operation, has been performed, yet such an operation requires much skill, and where there is no lameness, and the only object is to get rid of an eyesore, it had better not be attempted. G. H. Dadd, V. S.

Spaying Cows.

Eds. Cultivator—As there are many inquiries relative to the best time for spaying cows, I would answer, not less than twenty days after calving, and any time from the first of April to the middle of June; and heifers at any time excepting in the extreme hot weather in summer, and at any age from three days up to twenty years, when intended for beef. Any further inquiries, either by letter or through *The Cultivator* on the subject, will be promptly answered. William C. Carter. *East Bloomfield, March 2,* 1850.

The Dairy.



Dairy-Steamer.

The above cut represents Farmer's Dairy Steamer, an apparatus for heating milk in the manufacture of cheese.* It consists of a boiler for the generation of steam, attached to a stove or furnace. A pipe is attached to the boiler for conveying the steam to the vessel where the milk is heated. The milk is contained in a tin vessel, and this vessel is placed in a wooden vat of such dimensions as to leave a space of two inches at the bottom, sides and ends. This space is filled with water. When the milk is heated, for the application of rennet, the steam-pipe is let into the water, and the steam let on and continued till the milk is warmed to the required degree, which should be ascertained by plunging a thermometer into it. Dairymen are not exactly agreed as to the degree of heat to which milk should be raised; but none recommend less than 82° or more than 90°.

The use of an apparatus similar to the above, has been adopted in some of the largest dairies in this state, and is much approved. Mr. A. L. Fish, of Litchfield, Herkimer county, has highly recommended this mode of heating milk. See *Cultivator* for 1848, p. 153, and for 1849, pp. 154, 183.

One great advantage of this process is, that the heat is equally diffused through the whole mass, without any portion of it being exposed to an excessive degree. Mr. Fish observes—"The more water there is in the larger vessel, the more uniform heat is conveyed to the milk." The size of the tin vat for containing the milk has been given as follows:—For a dairy of 30 cows, 2½ feet wide, 6 feet long, and 19 inches deep. The night milk is strained into the tin vat, which is surrounded with cold water, in order to keep it properly cool till next morning, when the morning milk is added, and the water heated by steam for "running up" the curd.

A branch of the steam-pipe is connected with a tub or vat for heating water for washing utensils, &c., used in the dairy.

Premium Butter.

The statements of the competitors who received the highest premiums on butter, at the last exhibition of the N. Y. State Ag. Society, furnish, perhaps, as good information as we can give, in answer to several inquiries concerning the best mode of butter-making. We have therefore prepared the following article from the forthcoming volume of the Society's *Transactions*.

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*For particulars in regard to this steamer, address G. Farmer, Herkimer, Herkimer county, N. Y.

For the best fifty pounds of butter made at any time, the first premium was awarded to Horace Clapp, of Houseville, Lewis county. This butter was made on the 5th of September. The number of cows belonging to the dairy is forty, and the average product of butter for each cow for the season, is 165 lbs. The milk usually stands from 36 to 48 hours, according to the weather, but is skimmed before it turns sour; the temperature of the milk-room ranges from 58 to 62 degrees. The cream before churning is kept in a tin vessel, made for the purpose, and is set upon ice to cool to the proper temperature for churning—55 to 58 degrees. The butter is worked with a "butter-worker," which is considered preferable to the hand. The Bonaire ground salt is used at the rate of six pounds to a hundred pounds of butter, during warm weather, and somewhat less in autumn. No saltpetre, or any substance but salt, is mixed with the butter. The mode of keeping butter in summer is to lay it down in tubs, leaving space at top for half an inch in thickness of salt, which is laid on, moistened with strong brine, and kept moist during warm weather.

The cows are of the common stock, crossed to about one-fourth blood with the Short-horned breed. They are fed with hay only in winter, and grass in summer; they have access to salt at all times.

For the best twenty-five pounds of butter, made in June, John Shattuck, of Norwich, Chenango Co., received the first premium. He keeps twenty cows. The milk is strained into tin pans as soon as drawn, and kept on racks in the milk-room, until the cream is removed, which is always done in warm weather before the whey appears, and in cool weather before the milk begins to turn bitter. The cream is kept as cool as possible after it is taken from the milk, and the sooner it is churned the better. Churning is done every morning in warm weather, tempering the cream with ice, so as to have it gather well and hard, in which state it is readily freed from the butter-milk. In warm weather ice-water is used to rinse the butter when it is removed from the churn; the butter-milk is worked out clean, and the butter salted with ground rock-salt, at the rate of one pound to twenty pounds of butter. After it is thoroughly worked, it is set in a cool place about 24 hours, when it is again worked so as to entirely free it from the butter-milk; then pack it in a firkin, which is covered so tight as to exclude the air, until the firkin is filled. Nothing but salt is mixed with the butter. For keeping through the season, cloths are spread over the butter in the firkins, and strong brine, made of rock-salt, is poured on.

For the greatest amount of butter made from five cows in thirty days, John Holbert, of Chemung, Chemung county, received the first premium, and Nelson Van Ness, of Mayville, Chautauque county, the second. Mr. H.'s cows yielded in thirty days, (from May 23d, 1849,) 264¼ pounds, or an average of 52 pounds 14 ounces per cow—and those of Mr. V. N., 221 pounds—or an average of 44 pounds 3 ounces per cow. Mr. H.'s cows were of common stock, with a "slight mixture" of the Short-horned breed. Mr. V. N.'s were entirely of the common stock. Both herds were fed on grass only.

Profitable Dairy.—George W. Goodnow, of Southborough, Mass., gives an acount in the *Mass. Plowman* of the produce of twelve cows kept by him during the last year. From the first of March to the first of December, he sold 2287 lbs. of butter, for which he received $524.79—butter consumed in the family during the same time, was worth $29.94—milk sold, $77.76—calves sold, $70.71—making a total of $703.20.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Summer Management of Young Trees.

In answer to frequent inquiries, it may be stated that the first and great requisite in the successful treatment of newly transplanted trees, is to keep the surface of the soil for many feet around them clean and mellow by cultivation. This is important to all kinds of trees, but especially so to the peach. An instance occurred where a young peach orchard stood the first year in a clean and repeatedly cultivated potato field, and the green shoots on all the trees at the end of the first summer measured from a foot and a half to two and a-half feet in length—on an adjoining uncultivated piece of land, none of the shoots were three inches long.

A great mistake is often made by watering the roots of newly set trees, before the leaves expand, by which they become water-soaked and killed. A leafless tree is in a nearly dormant state, and throws off but little moisture. But as soon as the leaves expand, they exhale moisture rapidly, and a supply is then needed at the roots. Watering, however, usually fails of the intended purpose. The water is poured on the top of the ground, and only serves to bake the surface, without ever reaching the dry soil further down. If watering is actually required, the surface should be first removed, and the water then poured in directly on the roots, replacing the removed earth. An acquaintance who set out last year about 60 cherry trees, lost every one which was watered on the surface, consisting of about one-third of the whole.

If trees have been dug up carefully and with uninjured roots, and then well transplanted,—in the first place; and the soil kept mellow as already stated, in the second; they will usually have made so good a growth by midsummer, as to be beyond the danger of drouth. But if the transplanting has been badly done, or the soil has been allowed to get hard, the careless cultivator will doubtless be reminded of his negligence by the death of a part of his trees.

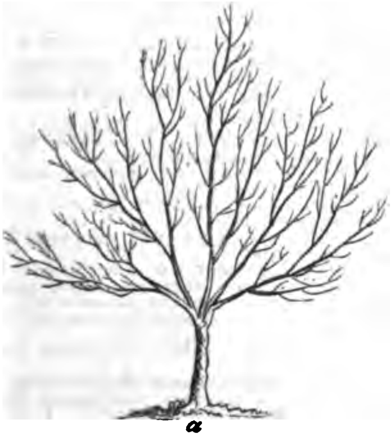
Watering a feebly growing tree, is at best but a very irregular way of supplying it with moisture. A greatly superior protection from midsummer heat and dryness, is *mulching*, or covering the surface of the earth for some feet round each tree with hay, straw, or other litter, several inches in thickness. This covering keeps the ground soft and moist, and night dews are retained in the soil through hot summer days. During the excessively dry season of last year, a row of newly set apple trees, standing on a high and dry piece of ground which could not be easily cultivated, were observed to cease growing, and the leaves to assume a yellowish cast. They were immediately *mulched*. In a few weeks, they re-commenced growth, and the leaves returned to a dark healthy green, although no rain had fallen during all this period.

Cherry trees, which in spring or early summer, give strong promise of a flourishing growth, are frequently destroyed by a parching midsummer's heat. To such, mulching is of eminent service.

Mulching is not usually advisable for young trees after the first season from transplanting, unless their growth is feeble. As soon as the growth is sufficient to give the tree strong and well established roots, whether it be the first or second year, clean and mellow culture is the best treatment which a tree can receive.

Pruning the Peach.

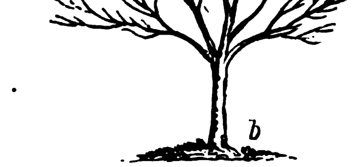
A correspodent says, "I have noticed that much is said about shortening-in the shoots of peach trees, commencing young and continuing 'annually—but I wish to know what to do with my trees, now seven or eight years old, and which have never been pruned. Will it do to cut them after the leaves have begun to appear, as has been asserted?"



a

We have found great advantage in pruning back the peach, even when the trees have been long neglected. A case once occurred where an old tree was greatly improved by the rough and random trimming it received from the tempest, which swept away a part of its limbs.

The treatment which an old or neglected tree receives, must be somewhat different from the annual shortening-in of young shoots. It becomes necessary to shorten-in on a larger scale, and with a freer hand. Even three or four feet may be taken off at a stroke, where the form of the tree appears to require it. We have found such treatment, when judiciously performed, often to double the size of the fruit, and to improve astonishingly the flavor. The above figures may possibly be of use, in pointing out more particularly the mode of performing this kind of pruning; *a* representing a common, well-grown, unpruned tree, and *b* the same, with such branches as may be cut away indicated by dotted lines.

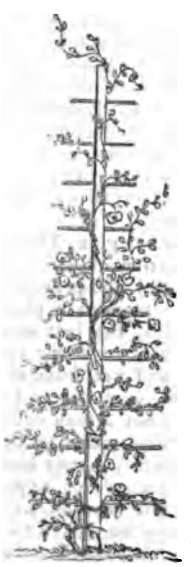


In connection with pruning, it is quite essential to give the trees a good mellow soil by cultivation, and if needful to enrich it by manure. Pruning alone, is insufficient to restore a neglected tree. With the two combined, those not actually enfeebled by old age, may be made to send out new and strong shoots, and to acquire the vigor of young trees. Their duration, with subsequent annual pruning, will be greatly increased.

The pruning of the peach may be performed, apparently, quite as well, after the leaves are partly expanded, as early in the spring—such, at least, is the result of several experiments. In the more northern states, it may therefore be accomplished during the early part of the present month.

Supports for Runners.

Small or slender climbers, as the Cypress-vine and other Ipomeas, the Madeira vine, Aristolochia, &c. present the best appearance when supported on a light frame, with some symmetry or regularity of appearance. Some of these frames were figured in our first number for this year. More irregular or rampant climbers may be borne aloft on a post with holes cut through it at intervals, for the passing and repassing of the flexible stem with its thickly clustered branches. A still more wild and irregular appearance is obtained by setting, as a post in the ground, the stem of a cedar tree, with portions of its larger branches left to support the climbing verdure. Both of these supports were figured in this paper last year. Some difficulty has however been felt. The single post requires some care and skill to cover it properly; and the armed cedar post is not always easily procured. In its absence, the following is a good contrivance. A single post is planted with horizontal arms fixed in holes bored for this purpose, as shown in the above figure. More irregularity is obtained by placing these arms alternately at right angles with each other. No nails are used in this support; it is firm and strong, and if made of durable wood, will last many years.



Curious Insect-Catchers.

The following very interesting fact is stated in S. B. PARSONS' New Haven Address, where he urges the importance of employing various animals for the destruction of insects, as the ferret is employed to destroy rats:—"I recollect visiting some years ago, an intelligent physician in the West Indies, who had trained some lizards to take the flies from his face when asleep. To show me their skill, he leaned his head against the side of the summer house, closed his eyes, and immediately, half a dozen bright little fellows, three or four inches long, appeared near him. Their glistening eyes twinkled with expectation, and the moment a fly made its appearance on any part of the Doctor's face, one or more of them would dart like lightning across his face, scarcely touching it, but carrying off the unfortunate fly." The same Address further states that "a French agriculturist had a hundred pairs of the bird called

Kuikimanore, from the Sandwich Islands. During the season, he would let them loose at night and they would return in the morning, each pair destroying, as was estimated, some four thousand May-bugs. In Malta, small birds are kept to free the house of flies during the summer, and are found very effective."

Strawberry Culture.

An intelligent friend, residing at Palmyra, N. Y., has furnished us the few following notes of a visit to one of his neighbors, remarkable for his success in the cultivation of the Strawberry, and celebrated for the enormous size and productiveness to which he has brought different sorts as they have successively passed under his hand. Whatever may be thought of the utility of large doses of cold spring water, one thing is certain, he has far outstripped all other gardeners in his vicinity, in his large, thickly trussed fruit:

"A very rainy day suggested to me to drop in and spend an hour this afternoon with him and his social wife, who together live almost excluded from the world without, except by books and papers. For many years he has been remarkably successful with strawberries, and although he has cultivated one kind for two or three years, and then replaced them by another kind, and then again by another and still another, yet somehow he manages every year, no matter what kind he has in cultivation, to astonish us all by his enormous crops of fruit.

"During the past three years he has given his almost sole attention to the cultivation of Hovey's Seedling, yet contrary to usual theory and practice, he firmly refuses to allow a single staminate plant to remain in their vicinity. Besides, the last season, he allowed all his strawberries to cover the ground completely with runners, and yet from the many neighbors and others abroad, who visited his garden during the fruiting season, not a man could be found who had ever seen it excelled either in the extraordinary size or quantity of fruit, in any kind of strawberries. Not a foot of ground, or apparently a single plant, that was not covered with large and perfect fruit. Some days he picked two or three bushels, and could have picked much more.

"One bed was on the lower end of his garden, where I should think it might be a deep soil; but a smaller bed near his house, is on about six or eight inches of good soil over a stiff hard-pan, yet this bed has borne during the past two years, at least as large fruit and as great quantity, as the most favored portions on the deeper soil below.

"Now it may be curious perhaps to inquire, what is the secret of all this? for I have been very careful to state only such things as I know to be facts. In answer, I would say after a close observation for a number of years, I am convinced it can be summed up in a single line, to wit,—*Select good plants,—give them clean culture,—and plenty of cold* HARD *water.*

"The importance of clean culture every one understands, but my friend is a little peculiar in his hydropathic views. He believes, from the careful observation and experience of half a century, that *hard* water is far better for plants than *soft* water —that the lime held in solution is evidently useful to them*—and also that plants may be *trained* to receive cold water at all hours—hence he accustoms his strawberries to take a cold bath from the well at mid-day in the face of a hot summer's sun *without shrinking*. In a dry hot time he will give, twice a day, every four or six feet square of his strawberry bed, a pailful of clear cold water."

Varieties of the Garden Pea.

Last year experiments were made in the garden of the London Horticultural Society, on many varieties of the pea, obtained from different cultivators, for the purpose of comparison, and testing their relative merits. The results have been published at length, which we here present in a condensed form, embracing the principal facts. The sorts were all sown on the 21st day of 3d month (March.) The color refers to the peas when dry.

Thompson's Early Dwarf—fit for use, June 28—height 2 ft.—pods, small, round, with 4 to 6 peas—white. Tolerably prolific.

Bishop's New Long Pod—June 28—2 feet—straight, cylindrical—6 to 7. Excellent, early, prolific. Far superior to Bishop's Early Dwarf.

Prince Albert—June 20—3 feet. Resembles Early Kent and Early Frame, but one week later. Early Warwick and Early Race-Horse, generally proved to be Early Frame.

Lady's Finger—July 4—5½ to 6 ft.—long, cylindrical—6 to 7—white Good, moderately productive.

Early Hero—July 6—5 to 5½ ft.—slightly curved—6 to 7—white. Peas medium size, good.

Shilling's Grotto—June 27—4½ to 5 ft.—thick, short, badly filled—4 to 6—white. Bad bearer.

Dwarf Branching Marrow—July 2—2 ft.—nearly straight, flattish—6—white. Moderate bearer. Stalk strong, short-jointed, leaflets broad, flowers large, cream-colored, peduncles short. Grimstone's Egyptian, found in an ancient Egyptian vase, (?) proved identical with Dwarf Branching Marrow.

Queen of Dwarfs—July 20—18 inches—large, flat—4 to 6—large, white. Moderate bearer.

Bellamy's Early Green Marrow—June 30—4½ to 5 ft.—long, straight, cylindrical—6 to 7—green or white. Good bearer, excellent.

Sutton's Superb Green Marrow—July 14—5½ to 6 ft.—flattish, nearly straight—6—large, green. Slightly harsh, moderate bearer.

New indented Green Marrow—July 18—5 feet—(resembles Knight's Green Marrow.) A good pea.

Victoria Marrow—July 24—6 to 6½ ft.—nearly 4 inches long—generally in pairs, straight, roundish—6 to 8—green. Good.

Flack's New Large Victoria—July 2—2½ to 3 ft.—flattish, nearly straight—about 6—blue or partly white. Peas large, pods medium. A good, dwarf, prolific variety.

Bedman's Imperial—July 14—2½ to 3 ft.—slightly curved, roundish—6 to 7—large, blue. Valuable, prolific.

New Imperial—June 20—3½ feet—small, cylindrical—blue. Inferior to many.

McLean's Seedling—July 3—2 feet—large, nearly straight—very large, bluish. Excellent, prolific.

British Queen—July 23—6 feet—large, straight, nearly round—about 7—light green. Peas very large, good bearer.

Gros Vert Normand—July 20—6 feet—slightly curved, flattish—7 to 8—bluish. Sugary, excellent, very productive.

Fairbeard's Champion of England—June 30—5 feet—long, slightly curved—7 to 8—bluish. Sugary, very productive, excellent.

Successful Treatment of Young Trees.

As I promised to furnish you with an account of my management of fruit trees, I give you the following:

The soil on which I am forming my orchard, is gravelly, with some sand, and clay intermixed. A part is very fine gravel, and works easily; a part is coarser and stronger and will grow good corn. In the spring of 1848, I set out about one hundred trees, (mostly apple,) in the following manner: Large holes were dug, and a large farm wheel-barrow load of chip dirt, *well rotted*, put into each hole. The tree was then set by myself, carefully spreading out the roots with the hand, after having cut off the bruised parts with a sharp knife, and shortened back the top. A pail of water was dashed in as the earth was thrown in to settle it about the roots.

The ground was planted with potatoes before the trees came, (which were received late in the season;) the trees were carefully hoed during the summer, and now for the results:—All lived and grew finely but one cherry tree; many grew a foot the first season. In the fall, the ground received a heavy top-dressing of manure, which was plowed under. The trees were earthed up, to prevent the mice from girdling them beneath the snow. In the spring of 1849, they were dug around for about 6 feet with a stout manure fork, the land plowed and sowed to onions, carrots, &c. The trees started vigorously, and grew till about the first of July, when the drouth was so severe that they ceased growing, the wood ripened well, scarcely making any second growth; the finest growth was about 15 inches on the average, some trees throwing out shoots 2 ft. in length. I intend to try some special manures upon them, and will give the results, if desired, at a future day, if life and health permit.

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* If the mineral substances held in solution possess fertilizing power, the experiment may succeed quite differently, so far as these affect its results, in different regions of country, where, on account of geological distinctions, these dissolved manures may be very unlike. —ED

In the spring of 1849, I set about 140 trees, and although the season was severe for newly planted trees in consequence of the drouth, I lost but one, and that was a cherry tree. They were set in a similar manner to those in '48, except that a compost of rich earth and well rotted manure was used instead of chip-dirt, and the trees were mulched with straw and coarse manure. The average growth was 6 to 8 inches; the land was planted to potatoes and corn; where corn was planted, 3 or 4 rows of potatoes were planted next the trees.

A hard strong hail injured the trees in the early part of the season, bruising them severely. In the fall, those set in '49, were manured with a compost of leached ashes, muck, and well-rotted manure, with a small quantity of night soil, well mixed. About a bushel of this mixture was placed around each tree, which I intend to dig in this spring, as soon as the ground will do to work. The trees were all earthed up last fall, and I have not discovered any depredations of mice. The trees set are apple, pear and cherry. I am at a loss about pruning—but shall endeavor to form broad, spreading tops. If any one has had experience in the culture, pruning, &c. of young orchards, I should be glad to hear from such, through the columns of *The Cultivator.* J. TALCOTT. *Rome, Oneida Co., N. Y., April* 4.

Manure for Fruit Trees.

"What is the best manure for fruit trees, to spade or work in near the roots, of general application?" *G. C.*

The following has been found, after several years experience, to constitute one of the best manures for fruit trees generally. A mixture of peat or swamp muck, with one-half to one-quarter of its bulk of stable manure, and about one-twentieth of leached ashes. These ingredients should lie in a heap together for a few weeks, and then be worked over. If for peach trees, the soap-suds from the laundry thrown over the heap will improve it. If for cherry trees, which will not bear high manuring, the proportion of peat or muck should be larger, and with less of yard manure and ashes.

There are some other ingredients which may occasionally be added to advantage, as ground or dissolved bones, night soil, &c., where a strong manure is needed.

Profits of Fruit Culture.

S. B. Parsons, in his recent address before the New Haven Horticultural Society, states that within a few miles of his residence there is an orchard of about 20 acres, producing $2000 a year, the vegetables between the trees paying the cost of cultivation—that the vineyards of Dr. Underhill, on Croton Point, are said to yield a net profit of some $4000 per annum—that two cherry trees of his own yielded often, $30—and that the net profits of the great Newtown Pippin orchard of R. L. Pell, at Esopus, are some $8000 per annum.

Great Crop of Winter Squashes.

A neighbor of mine raised last year (1849) a very remarkable crop of winter squashes. The seeds were mostly of the hybrid squash produced by a cross between the Seven Year Pumpkin and Green Flesh Melon, and originated in my garden in 1844, as described in your May number, 1848, page 150. The soil was a sandy loam highly fertilized with barnyard manure, and the dressings of limestone, made by the preparation of building stone. The extent of ground occupied by this crop was 36 square rods, being a plat 9 by 4. This area includes the whole spread of the vines. The number of the fruit was about nine hundred. The weight of which was usually from about twenty to eighty-four pounds, of which last weight there were some three or four. The estimated average was forty pounds. This gives eighteen tons as the average of the whole crop, or one thousand pounds to the square rod, which would give twenty-five fruits of average size to each square rod, or about one squash to each 11 square feet. The yield of this small plot will be seen to be equal to eighty tons to the acre. A crop of beets or carrots of the same weight would amount to sixteen hundred bushels, estimating the bushel to weigh fifty pounds. I saw the squashes after they were gathered, and have no reason to suppose the weight was over-estimated, as I am accustomed to sell large quantities of this vegetable, and always sell them by weight. This prodigious crop is to be credited, partly to the quality of the soil, and partly to a long hot and dry summer, the crop being saved from the extreme effects of drouth by subsoil water, at the depth of three or four feet. C. E. G. *Utica, March,* 1850.

Trees of California.

In HARTWEG'S recently published account of his botanical tour in California in 1846, we find many interesting descriptions of the vegetable productions of that region, some of which cannot fail to interest our readers.

The Californian Horse Chestnut, (*Pavia californica,*) which must be in the highest degree ornamental and showy, is thus described:—

"On the dry banks of the ravines, to the north-east of Monterey, the Californian horse chestnut is common. This extremely ornamental shrub or low tree rises to the height of twenty-five feet, is of a globular shape, and produces its fragrant whitish flowers of a delicate pink hue, in great abundance *on spikes twelve inches long;* one of these spikes, which I had the curiosity to count, had more than 400 open flowers and buds upon it."

On the mountains, about 4,000 feet above the level of the sea, he found the cones of the *Pinus macrocarpa,* or large-coned pine, measuring 15 inches in length, and growing on trees thirty or forty feet high. On the west flank of the great mountain range, the *Abies bracteata* was discovered, a remarkable fir, "which attains the height of fifty feet, *with a stem from twelve to fiftee feet in diameter,* one-third of which is clear of branches, and the remainder forming an elongated tapering pyramid, of which the upper part, for three feet is productive of cones."

The enormous growth of the forest trees in this region of the world, is strikingly exhibited in the *Taxodium sempervirens,* (known by the English names of Redwood and Bastard Cedar,) and in some species of the pine. The Taxodium is thus described:—

"In close forests it grows to an enormous size, averaging 200 feet in height, with a stem of six to eight feet in diameter, which is as straight as an arrow, and clear of branches up to sixty or seventy feet. One tree, that is termed by the Americans "the giant of the forest," is 270 feet high, with a stem measuring fifty-five feet in circumference at six feet from the ground. The bark of the redwood is from six to twelve inches thick, reddish and smooth; the timber is of a beautiful red color, like pencil wood, fine, close grained, light, but brittle; it is well adapted for in and out door work, as the boards when seasoned, do not warp, nor is it attacked by insects. Large quantities of timber are annually exported to the Sandwich Islands; 1,000 feet of one inch boards, delivered on the beach at Santa Cruz, are worth 81."

Some of the gigantic pines were noticed in an attempted ascent of the snowcapped mountains in the early part of summer:—"Ascending the gradual acclivity, we left the region of the *Pinus Sabiana*, and entered that of *Pinus Benthamiana*, which seems to be the characteristic of the upper region. Some trees of this noble pine attain an enormous size. The largest I measured were 28 feet in circumference [9 ft. diam.] and 228 feet high. Of equal dimensions is *P. Lambertiana*, which however does not constitute masses by itself, but is thinly scattered among the former. The same is the case with a *Thuja* [arbor vitæ] which rises to the height of 130 feet, by 12 or 15 in circumference."

The rapidity of vegetation under that cloudless sky, may be judged by the fact that during an absence of ten days from Monterey, bulbous flowers had dropped their blossoms, and fully ripened their seed. This rapidity is not much less, even in spring. "By the end of April, the prairies in the Sacramento Valley assumed a different aspect; 2 weeks ago, they were a carpet of flowers, which have now disappeared, and a yellow, sickly tinge pervades the whole." "Most kinds had, during the fortnight since I first saw them in flower, ripened their seeds, and it was with difficulty I found a few grains of the beautiful little *Leptosiphon aureus*, and similar plants, which, between their taller neighbors, had almost become invisible."

Shipment of Fruit from Wayne County.

We make the following extract from Mr. PARDEE's Address before the Wayne County (N. Y.) Ag. Society:

We also learn what was to me an astonishing fact, that the offices in Wayne county, during the year 1848, cleared more dried fruit, by more than 30 per cent., than the entire state west of us, to and including Buffalo; and also, more by 15 pr cent. than the entire state east of us. The offices west cleared 538,000 lbs.—those east, 610,000 lbs.—while Lyons and Palmyra cleared 708,000 lbs., or more than 30,000 bushels.

This is indeed a noble tribute to the industry of the daughters of Wayne county; (for the women and children do the most of this work;) for who can calculate the enormous amount of labor, in drying 150,000 bushels of apples, peaches and plums—this being the requisite amount to make the 30,000 bushels when dried.

For several years past, the Palmyra office has cleared about 60,000 barrels of fine grafted apples per annum, or 150,000 bushels more of fruit; and if Lyons, Newark and Clyde together, send off as much more, (as they doubtless do from 50 to 100 per cent. more,) we then have the aggregate of 400,000 to 500,000 bushels of fruit, in a green and dried state, exported annually.

ROSE CUTTINGS.—One of the best methods of securing the success of these, is to stick the cutting about an inch deep into *clean* river sand—with properly prepared soil about an inch below to receive the roots as soon as they strike. The clean sand prevents the roots from rotting. A correspondent of the *Horticulturist* succeeded with this when every other mode failed—and says he does not lose one in twenty.

Hints to Young Men.

A Letter of Advice,

FROM AN OLD FARMER OF HERKIMER COUNTY, TO A YOUNG MAN NOW IN VIRGINIA.

As you lived with me, from a small boy to the time you was twenty-one, I claim the right to advise you.

You should bear in mind that you are young, without property, and without wealthy or influential relatives or friends to assist you; and that your future prospects in life, both as to character and wealth, must depend entirely on your own exertions. Do not be discouraged on this account; there is the more need of courage, perseverance and economy. There are many wealthy and influential farmers, particularly in western New-York and Ohio, who commenced with no more means than you have. They saved a few hundred dollars, went in while the country was new and land cheap, and grew into their present situation by their own industry and the improvement of the country. You can do the same. The new states and territories offer an equal chance, and perhaps better, owing to the increased facility of travel, and the transportation of produce to market. One could hardly find a place now to locate, where he would not, in all probability, be reached in a few years, by boats, or cars propelled by steam. This was not formerly the case.

Whether you are to be in a situation to support a family comfortably, and to bring up and educate your children well, or to have a scanty and precarious support from day's work, is an important matter to you, and now is the time to think of it, and make the necessary preparations; much depends on the course you take for the first three or four years. If you are industrious and prudent, and lay up money during this time, your chance will be good—while if you are slack and spend what you earn, your prospects will be bad; your habits of thinking and acting during this time, will become so fixed that it will be hard to alter them. I speak of your family, because it is more than probable you will have one. "*Multiply and replenish*," is a command of holy writ.

Your first object should be to establish for yourself a *good moral character;* without which you cannot expect to succeed well, and with it you can hardly fail of success. To effect this you should deal honorably and uprightly, keeping your word good on all occasions; be careful about making contracts and promises, but when made, fulfil them to the very letter.

Be thorough and persevering, in whatever business you undertake, and engage in none but what is fair and honorable.

Be careful and never do a *dishonorable or a mean* thing. Avoid law-suits; they are expensive, and usually unprofitable, both in a pecuniary and moral point of view.

Avoid gambling by all means; it is bad in itself, and will lead to many other vices.

Be temperate in the use of intoxicating drinks; or what is much better, not use them at all.

Avoid loose, drinking, gambling company, whether they be rich or poor; whether they drink wine or whiskey. Habits acquired while young are hard to get rid of.

Treat every one with respect, and all decent persons will respect you.

Whenever you get a little money ahead, put it out in safe hands, on interest; better for the present to receive than to pay interest. If you have health, you can in a few years, lay up enough to buy good land, in a new country, sufficient for a farm.

Better not enter into speculation; although some get rich by it, it is believed the majority fail. If a whole community should turn speculators, they would soon be in want of bread. Better to acquire wealth by the ordinary means of production.

Better not buy horses and carriages, until you have use for them, and can make them profitable.

The time to buy a thing, is when you really need it, cannot well do without it, can buy to good advantage, make it profitable, and have the money to spare to pay for it.

This you see, would exclude the purchase of pistols, bowie knives, watches, dogs, race-horses, &c. Young farmers in moderate circumstances, can get along without these things.

I advise you to take a public newspaper. One from the city of New-York is best. You can get one for a dollar a year, (say the *Evening Post* or *Tribune*, as best suits your political views.) The postage is a mere trifle; and the money paid in this way will be worth to you twice the amount paid out for *fiddling*. Remember this; in our country, the man who does not read the papers is behind the times. They give a history of matters and things in general, as they daily transpire, and their reading keeps one up with the times. As you are farming, you had better take *The Cultivator*. Better to spend your leisure time reading than at *cards*.

I am told you have taken, (in company with a partner,) a large farm and dairy on shares; if so, manage it thoroughly and with care and prudence. This will be both to your profit and credit. You, doubtless, have a written contract. Fulfil it in every respect; keep an exact and minute account between the land owner and yourself. This will save trouble in making settlement, and will help to establish your character as a correct business man; while if your accounts are loose and incorrect, you will have trouble in making settlement, and it will operate much to your disadvantage. A good character as a business man, once established, is easily sustained, while it is hard to recover from a bad one.

Remember that your only capital consists in your ability to labor, and in the improvement of your mind so as to turn your labor to good advantage; and that an honest, intelligent laboring man ought to be respected in any society, and is respected by all fair-minded men.

Nature has so ordered it, that but "*few men can be really great*," while every common-sense man can be honest, intelligent and industrious. I hope you will at least come up to this standard.

In short, make up your mind to "*do to others as you would wish them to do to you*," and you will succeed. This is the essence of morality, and the best rule of politeness; adopt this rule, be industrious, *go a-head*, and all will be well with you.

Facts and Opinions.

(Condensed from Books and Papers.)

Raising Potatoes Cheaply.—The *Michigan Farmer* says that A. Z. Moore raises potatoes at small cost, as follows:—In planting, which is done while the plowing is progressing, the potatoes are dropped into every third furrow, the fourth furrow covering them. When up, the whole surface is harrowed, killing weeds and not hurting potatoes. A plow throws out the potatoes in harvesting, and a fork removes all omitted by the plow.

Steaming Chopped Food.—An English farmer, who keeps 90 head of cattle and horses, estimates that he saved thirty tons of hay in one year, by chopping and steaming a mixture of equal parts of hay and straw, and saving $270 worth of hay. The cost of the cutting and steaming was less than $20.

Bees in Winter.—The *New-England Farmer* recommends the shading of bee-hives in winter, to prevent the bees becoming warmed into activity, and leaving the hive to be chilled to death on the snow—and also states that he has found by weighing that bees consume honey much faster in the dry part of summer, when the flowers afford no honey, than in winter; that hives, kept uniformly cool in cellars, have scarcely lessened in honey through winter; and that the greatest losses have occurred where bee-sheds have faced the south, exposed alternately to hot sun, cold winds, and sharp nights.

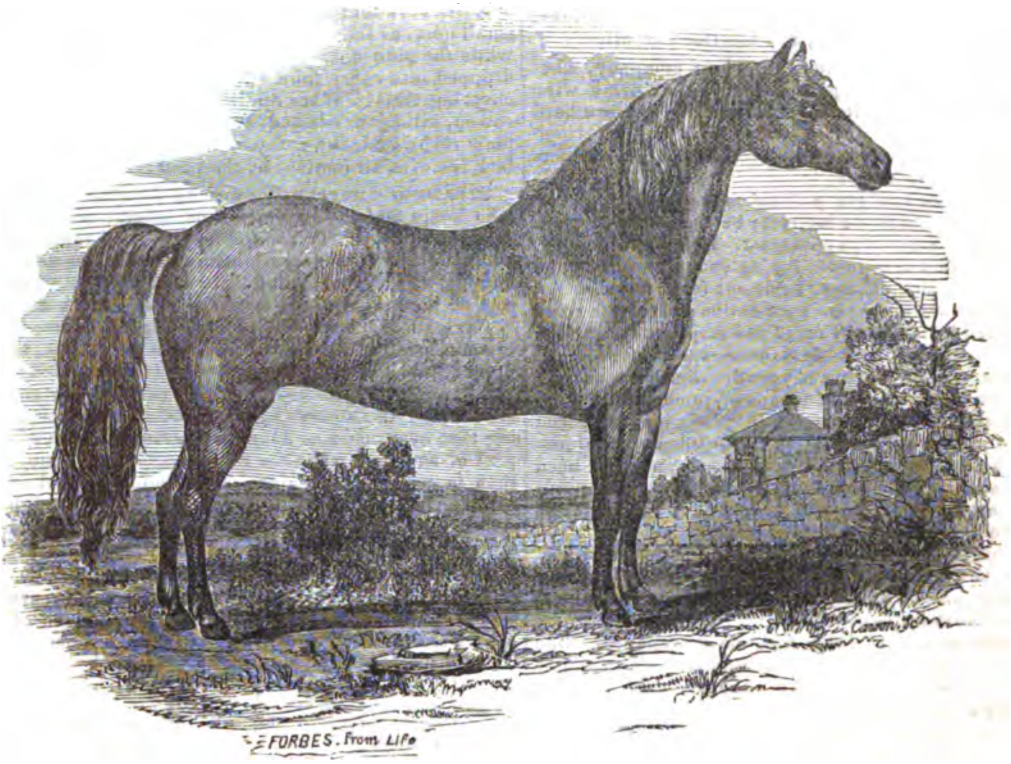
Loss of Heat.—By experiments made some years ago in Philadelphia, the following proportions of heat were radiated or thrown out into the room:

Sheet iron stove with	42	ft. pipe,	radiated	100	parts	of heat.
do do	13	"	"	95	"	"
do do	5	"	"	67	"	"
Cast 10 plate stove,	5	"	"	45	"	"
Open Franklin stove,	5	"	"	37	"	"
Open coal grate,			"	18	"	"
Common fire place,		"	"	10	"	"

Close, and Liberal Feeding.—A. Todd of Smithfield, R. I., states in the *N. E. Farmer*, that he had five cows pastured on a piece of land, but not feeling satisfied with the amount of feed they obtained, he sold one at the end of the year. He consequently found that the four yielded a greater *nett profit* than the five had done. "Concluding in my mind," says he, "that if four cows were more profitable than five, on the same principle *three* might be still better, (although I find no rule in "Adams" or "Smith" that supports this doctrine,) I accordingly disposed of another, and by taking a little extra pains with the *three* left, I churned *more butter* from the three than I had in any preceding year from the four or five."

Second-Growth Forests.—The same paper gives the experiment of John M. Weeks of Vt., who carefully excludes cattle from his woods, and allows the second growth to spring up freely where his fire wood has been. In a few years, the best and most thrifty of the young trees are trimmed up six feet, leaving about 800 or 1000 trees per acre. The value and beauty of the eight acres thus covered with young growth, from one to seventeen years old, exhibits very strikingly the value of this trimming out. Two acres of this piece are young pines only six years old, and so vigorous and heavy is their growth, that he thinks there is more timber on the land than ever before, setting aside some of the largest pines. He intends to cut out soon about half of these young pines, leaving about 400 to the acre.

Coarse Wool.—The *Wool-Grower* says that the present high price of coarse and medium wool, "is bringing in a large amount of foreign, and we should not be surprised if the importations this year should exceed at least twenty millions."



LADY GIFFORD.

Stock Husbandry.

Lady Gifford.

The above figure is an excellent portrait of a mare, noticed in our last, as having been purchased by Mr. S. A. Gilbert, East Hamilton, N. Y., of Mr. Ingraham, Chester, Vt. We are informed that she was bred by Madison Aldredge, of Weathersfield, Vt.; was by the well-known horse Gifford Morgan, dam a bay mare, owned by Mr. Aldredge. Her color is a dark chestnut, or brown. She has great depth and capacity of chest, and remarkable muscular development, combined with justness of proportion, which gives her great bottom and power. She has not yet been trained, but her natural action is of the right kind, and indicates that mature age and proper management only, are wanting to enable her show speed equal to the best. She has great spirit and fire, but withal so much intelligence and gentleness that a lady or child can safely drive her.

Alderney breed of Cattle.

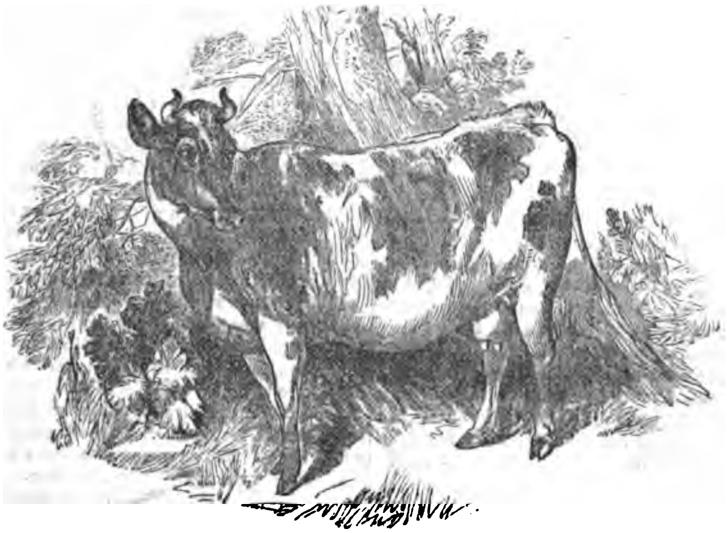
In the islands of Jersey, Guernsey, and Alderney, in the English Channel, a breed of cattle has long existed, the cows of which have been much celebrated for the richness of their milk. This breed is said to have come originally from Normandy, France, where cattle of similar characters are still found. In the islands above mentioned, however, the breed has been of late years much improved, so that it is considered superior to the Norman stock. The improvement alluded to, has been produced chiefly by an association of farmers in Jersey. An account of the improvement effected by this society, has been given by Col. LeCouteur, in the fifth volume of the Transactions of the Royal Agricultural Society. He states that these cattle were formerly ill-shaped, of poor constitutions, and great consumers in proportion to their weight. The farmers had looked only to the production of rich milk and butter, and the consequence was, that, though the cows gave good returns in this respect, they were less profitable than they might have been, had they possessed other valuable qualities, the union of which would not have detracted from their dairy produce. But these defects, we are told, have been in a great degree remedied. Col. LeC. observes—"By having studied the habits of a good cow with a little more tendency to fatten than others, and crossing her with a fleshy well-conditioned bull of a stock that was also known to produce quantity and quality of butter, the next generation has proved of a rounder form, with a tendency to make fat, without having lost the butyraceous nature."

For determining the comparative excellence of animals, the society have a "scale of points" for bulls and another for cows, as follows:—

Scale of Points for Bulls. P'ts.

Art. I. Purity of breed on male and female sides, reputed for having produced rich and yellow butter,........................... 4

II. Head fine and tapering, cheek small, muzzle fine and encircled with white, nostrils high and open, horns polished, crum-



ALDERNEY COW.

	pled, not too thick at the base, and tapering, tipped with black; ears small, of of an orange color within, eye full and lively,	8
III.	Neck fine and lightly placed on the shoulders; chest broad, barrel hooped and deep, well ribbed home to the hips,	3
IV.	Back straight from the withers to the setting on of the tail, at right angles to the tail. Tail fine, hanging two inches below the hock,	3
V.	Hide thin and moveable, mellow, well covered with soft and fine hair,	3
VI.	Fore-arm large and powerful, legs short and straight, swelling and full above the knee, and fine below it,	2
VII.	Hind quarters from the huckle to the point of the rump, long and well filled up; the legs not to cross behind in walking,	2
VIII.	Growth,	1
IX.	General appearance,	2
	Perfection,	28

No prize shall be awarded to a bull having less than 20 points.

Scale of Points for Cows and Heifers.		P'ts.
Art. I.	Breed, on male and female sides, reputed for producing rich and yellow butter,	4
II.	Head small, fine and tapering; eye full and lively. Muzzle fine and encircled with white; horns polished and a little crumpled, tipped with black; ears small, of an orange color within,	8
III.	Back straight from the withers to the setting on of the tail; chest deep, and nearly on a line with the belly,	4
IV.	Hide thin, moveable, but not too loose, well covered with fine soft hair,	2
V.	Barrel hooped and deep, well ribbed home, having but little space between the ribs and hips; tail fine, hanging two inches below the hock,	4
VI.	Fore legs straight and fine, thighs full and long, close together when viewed from behind; hind legs short, and bones rather fine; hoof small; hind legs not to cross in walking,	2
VII.	Udder full, well up behind; teats large and squarely placed, being wide apart; milk veins large and swelling,	4
VIII.	Growth,	1
IX.	General appearance,	2
	Perfection for cows,	30

Two points shall be deducted from the number required for perfection on heifers, as their udder and milk veins cannot be fully developed. A heifer will therefore be considered perfect at 28 points.

No prize shall be awarded to cows or heifers having less than 21 points.

Some of the improved variety of this breed, are said to possess nearly every good point in the scale, and they are, at the same time, fully equal to the old stock for the dairy—some giving fourteen pounds of butter in a week, and ten pounds being common through the spring and summer months.

We commend the above rules to the attention of our dairymen. With the exception of one point, a "thin skin," we approve them. For our severe climate, a skin of considerable substance is indispensable, though it should be mellow, and as the rule says, "well covered with soft hair."

Alderney cows have at various times been imported into this country; but we have not heard of the introduction of any of the improved variety described by Col. Le Couteur. They are doubtless much superior to the old stock in form and constitution. The old breed has not, generally, sufficient hardiness for the climate of the northern section of our country.

Pedigrees of Short-Horns.

Eds. Cultivator—In the January No. of *The Cultivator* for 1850, is a letter from Mr. Chapman, giving a part of Mr. Bates' letter to the publisher of the print of his bull, Duke of Northumberland, in which Mr. Bates says he has the whole of the Duchess family in his possession, and that they are superior to all other tribes of Short-horns.

Now I propose examining the pedigree of this bull, Duke of Northumberland, to see how much Duchess blood he has. For this purpose, I copy his pedigree from the Herd-book:

"DUKE OF NORTHUMBERLAND (1940,) roan, calved Oct. 16, 1835, bred by and the property of Mr. T. Bates; got by Belvidere (1706,) d. Duchess 34th by Belvidere (1706,) gr. d. Duchess 29th by Second Hubback (1423,) gr. gr. d. Duchess 20th by the 2d Earl (1511) gr. gr gr. d. Duchess 8th, by Marske (418,) gr. gr. gr. gr. d. Duchess 2d by Ketton 1st, gr. gr. gr. gr. gr. d. Duchess 1st, bred by C. Colling by Comet (155,) gr. gr. gr. gr. gr. gr. d. by Favorite (252,) gr. gr. gr. gr. gr. gr. gr. d. by Daisy Bull (186,) gr. gr. gr. gr. gr. gr. gr. gr. d. by Favorite (252,) gr. gr. gr. gr. gr. gr. gr. gr. gr. d. by Hubback, (319,) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. d. bought by C. Colling from Stanwix, by James Brown's Red Bull, (97.)"

Now we will count the cow bought from Stanwix as "*pure Duchess;*" when she had a calf by Hubback, the produce was half; the first produce of Favorite was a quarter; the produce by Daisy bull was an eighth; the second produce by Favorite was a sixteenth; the produce by Comet was one thirty-second part; the produce of Marske (418) is one sixty-fourth part; the first produce of Belvidere, Duchess 34th, is one one hundred and twenty-eighth part; and the second produce of Belvidere is one two hundred and fifty-sixth part. *That is, the Duke of Northumberland had but one part Duchess blood, while he had two hundred and fifty-five parts of other blood.*

In this estimate I did not count some fractions, but they would have given him even less Duchess blood than the estimate above, had they all been counted. Now if Duke of Northumberland weighed two thousand and forty pounds, he had but eight pounds of "Duchess tribe" in him. But I suppose this is enough to brag on.

I heartily concur with Mr. Chapman in the hope that some of our enterprising breeders will import some of the best of Mr. Bates' herd; but as to the "*pure, unalloyed Duchess tribe,*" there is no such thing in existence. But I do not consider Mr. Bates' stock any the less valuable on that account. The Oxford premium cow owed her excellence to the union of several tribes; particularly to the Princess, Daisy and Duchess tribes. None of the tribes have been, nor can they be kept "*pure and unalloyed*" for any length of time, without endangering their *health, thrift and productiveness.* Mr. Bates' stock, if equal to their reputation, would be a great acquisition to the breeders of Short-horns in America, particularly in those localities where the breeder was near market. But a circumstance mentioned in his letter to the publisher of the print of the Duke of Northumberland, is indicative of great tenderness, or bad travelling, perhaps both. In that letter he says, Duke of Northumberland, in traveling twenty-six days, lost 392 pounds, or more than fifteen pounds a day. I suppose he was driven moderately, with great care. If his stock should inherit this quality, they would be in a sad plight, when driven to market from Kentucky to New-York! However, I should like to have some of them; I would risk their travelling to nearer markets.

Mr. Bates has been very particular in using the best blood, and in that way, has kept up the excellence and reputation of his stock. For this he has been largely indebted to the Daisy tribe, which I have not seen mentioned either in his or any other publication, and have been at a loss to account for the omission. His first Duchess cow, purchased in 1804, was by Daisy Bull (186,) and all his Duchess tribe are descended from her. So he began with half Daisy blood. That the Daisy tribe were equal in England in 1810, in the estimation of purchasers, is evident in the fact that at Mr. Charles Collings' great sale, a cow of that tribe (Lilly) sold for four hundred and ten guineas—ten guineas more than any cow of any other tribe. And that they still kept up their reputation in 1831, is proved by a certificate of George Coats, keeper of the English Herd-book. After giving the pedigree of Bertram (1716,) a bull of the Daisy tribe, (brought to America by Col. Powel, and brought to Kentucky by David Sutton,) he says:—"This bull combines more perfection in form, handling, and dairy qualities, than any bull I ever saw. I consider him very much superior to old Comet, bred in my neighborhood, and sold by public auction for one thousand guineas."

Mr. Stevens, in the August number of *The Cultivator*, says that 3d Duke of Cambridge—"is the only bull in America got by Mr. Bates' '*crack prize*' bull, Duke of Northumberland." Now Locomotive (4242,) was not only got by Mr. Bates' "*crack prize*" bull Duke of Northumberland, but his dam was Mr. Bates' "*crack prize*" cow Oxford. Locomotive was brought to Kentucky by Mr. Letton.

Whilst I am writing, I will notice an error of Mr. Stevens, published in the American Herd-Book, p. 68. He says, in regard to Mr. Bates' stock,—"Up to the introduction of Belvidere to his herd, he had adhered to his Duchess blood entirely, (except in the case of two or three cows put to Marske,) and produced a disposition to sterility. * * * * Since 1831, Mr. Bates has used that blood, a union of the Duchess and Princess tribes, mainly, and has only resorted to any other in one instance, viz: Cleveland Lad."

Mr. Bates has used other blood in many instances; a few of which I will notice. Look at 3d vol. English Herd-Book, page 355, you will see that the Duke of Cleveland was calved in 1831, bred by T. Bates, and got by Bertram (1716,) a bull of the Daisy tribe. In 1833, Duchess 35th was calved (p. 354,) by Gambier (2046;) Gambier was by Bertram (1716,) his dam of Mr. Charge's stock. In 1835, Duchess 38th was calved, got by Norfolk (2377,) a bull of Mr. Whitaker's breeding (p. 356.) In 1833, the Matchem cow had a cow calf by Gambier, and in 1834, a cow calf OXFORD by Duke of Cleveland (1937;) both these bulls were by Bertram (1716,) (p. 494.) I deem it unnecessary to multiply cases, as these are sufficient.

I think Mr. Stevens is also mistaken in saying—"the pedigree of the Princess tribe of Short-horns, traces farther back than any one recorded in the Herd-Book;" but presume the reasoning by which I come to this conclusion would be uninteresting. Mr. Bates says in his letter to Mr. Vail, (published in the *Agriculturist* 1848, p. 125,)—"No animals of the Princess tribe can now be had in England, *worth sending* to America, except what I have, descended from the Matchem cow, the dam of your Wellington; and that tribe was only preserved by putting the Matchem cow to bulls of my Duchess family." * * * "I have been thus particular to let you know how highly I prize this tribe, the *only one* left of any value from the Princess tribe of cows."

Thus it appears that according to Mr. Bates' opinion, *he* had all the Duchess tribe, and all the Princess tribe, that was worth anything. Notwithstanding Mr. Bates' opinion, given above, I have no doubt the cattle imported by Mr. Stevens, of the Princess tribe of Short-horns, *are really fine.* S. D. MARTIN. (*Near*) *Colbyville, Ky., March,* 1850.

TIME FOR HEIFERS CALVING.—A late English writer considers it a matter of great importance, that heifers should be so managed as to have their first calf late in spring, when there is an abundance of succulent food, inducing a large supply of milk. This is much better than to have them come in early in spring, when they have dry food only. The habit at first formed is apt to remain with them, and if they commence by giving a good supply of milk, they are apt to be good milkers afterwards.

The Farmer's Note-Book.

Culture of Indian Corn.

EDS. CULTIVATOR—Although not engaged, at present, in agriculture, I am not an indifferent spectator of its progress, and have witnessed with pleasure the success of several quite different modes of cultivating Indian corn. As the season for planting is now close at hand, I will call the attention of your readers to a point in the cultivation of that crop, which if known, is not duly appreciated, and therefore much neglected. I mean *the early culture of the plant*.

All intelligent farmers know that a deep, rich, dry and warm soil is the most suitable for corn, (and by deep plowing and manuring, most soils may be made so,) but they are not so unanimous in the belief of the benefit of deep plowing for corn, because good crops are *occasionally* grown on rich soils, and in favorable seasons, with shallow plowing. The value of barn-yard manure to corn, may be inferred from the fact that even on some of the fertile lands of the west, already too rich for other cereal crops, the corn crop is benefitted by it, and it is the only grain crop to which it can be applied there with profit. Deep plowing of a rich soil, is then the first step in corn culture, as it best secures the crop against injury from parching drouth, as well as excessive rains, and furnishes a wider range for the roots to seek their nourishment. The soil should be well pulverised by the harrow, and marked out carefully for planting into drills about 3 inches deep, unless the surface is very level, and liable to be flooded by rains. Plenty of seed should be used, so as to ensure at least two, but never more than three thrifty plants in each hill.

The spaces between the rows must vary with the kind of corn planted. The speedy germination of the seed, and the rapid and vigorous development of the young plant, exert an important influence on it, during the whole period of its subsequent growth to maturity; therefore, to hasten germination, the seed may be steeped over night in some fertilizing liquid, and rolled in gypsum or guano; or a little well rotted manure or compost may be put into the hill with the seed; and as seeds germinate most readily in fresh plowed ground, it is desirable that the plowing and other preparation of the ground, and the planting, should be done with as much despatch as is consistent with having it *done well*.

The seed should *not be steeped* unless it is to be planted in *fresh plowed or moist soil*. The best time for planting in this neighborhood is from the 10th to the 20th of May. If the plowing and other preparation of the ground has been well done, and the corn is planted, it may be said truly of the cultivation, that—"Well begun, is half done."

As soon as the young plant is well up, start the cultivator, and run it as near the rows as possible; or if the plowing has not been thoroughly done, a small plow may be used for this first dressing, turning the earth away from the plants. Then with potato hooks or similar implements, stir the soil around and between the plants, which will destroy a whole generation of weeds in embryo; now drop a spoonfull of gypsum on every hill. This first early dressing promotes the growth of the young plants, and gives them the start of the succeeding crop of weeds; and while your neighbor is "waiting," as he says, "for his corn to get big enough to hoe," yours will call loudly for a second dressing. *His* will be sickly, pale and spindling, in consequence of its struggle with the grass and weeds, which have nearly supplanted it; while the large stem, the broad leaf, and the deep green color of yours, will indicate its healthy and vigorous growth. With double the labor, he cannot now half destroy the weeds; and by the time "his corn," as he says, "is big enough for hilling," you may with less labor have given yours three and even four dressings with the cultivator and hoe—during which time its growth has been rapid, and it will be "setting for ears." Keep the surface nearly level, and "earth up" slightly round the plants. The more the earth is stirred the better, especially during dry weather, and the cultivation should be continued till it "sets for ears," when it will so cover the ground as to arrest the further growth of weeds. And now some gypsum should be sown over it broadcast, and the labor of cultivation is ended.

The following advantages result from this mode of cultivation. It increases the quantity and quality of the corn; it leaves the land clean, and prepares it for wheat or any other succeeding crop, or grass, as well, if not better, than a naked fallow; it hastens the maturity of the corn so that it may be cut up the last of August or first of September, in season for sowing wheat; it may be husked and the stalks housed before the autumnal rains set in, and finally, (best of all) it is the most profitable.

Seed-corn should be gathered in the field before the main crop is harvested. The largest of twin ears, and those of earliest maturity should be selected. Instead of deteriorating, corn may be much improved by this method.

I omitted to state in its proper place, that at the second dressing the plants should be thinned out to three in a hill. A. D. G. *Troy, N. Y., April.*

"A Little Land Well Tilled."

EDS. CULTIVATOR—Farmers are very liable to err in cultivating too much land. They make their calculations to sow and plant so many acres, without taking into account the quantity of manure they have to apply, or the amount of labor they can bestow. This not only subjects them to much haste and inconvenience, but their crops are not cultivated as they otherwise would be, and the land is not left in so good condition when it is laid down to grass. There is still greater folly on the part of some, in the desire to increase their estates by the purchase of more land, when their system of *half cultivation* should admonish them that they had better sell than buy.

"What is worth doing is worth doing well." This should be the motto of farmers in the performance of all their work. A small farm well cultivated, is better than a large one half cultivated. Any one that has a good kitchen garden can see how profitable land may be that is manured and cultivated thoroughly. Pursue the same course in all land cultivated, and the profit would be in proportion. The majority of farmers do not know experimentally what an acre can be made to produce. Mechanics in our villages, and those that own but little land, generally manage to make that very productive. An illustration of what may be done on a small piece of land, came under my observation last fall, during a sojourn of a few days with a friend, in one of our manufacturing villages. About three years since, he purchased a piece of land for a house lot, its area not exceeding half an acre. After building, he laid out his ground, and planted some peach trees, two or three kinds of cherry and plum trees, some dwarf pear trees, a few choice apple trees, grape and strawberry vines, and currant and white raspberry bushes. On the remainder, besides having borders for plants and flowers, (by the way, I thought his *household flowers* the most interesting,) he raises all the vegetables necessary for family consumption. Some of the trees have already commenced bearing; he has a supply of strawberries, currants and raspberries in their season, and in a few years, will probably have a plenty of fruit, much better than can be obtained in market, because nicer and fresher, and the cost of it will be merely nominal. The most of the labor of planting and cultivating this ground has been done in spare moments, redeemed from the engrossing cares of manufacturing.

This shows what can be done with small means, even when the cares of business leave but little leisure. Examples of this kind are becoming more numerous, as there is an increasing interest manifested in rural pursuits. Thorough cultivation is becoming better understood and appreciated, and the example of good cultivators has a great influence over the careless and negligent. W. L. EATON. *Weare, N. H.*

How to Prevent the untimely Sitting of Hens.

EDS. CULTIVATOR—It is the sentiment of some benevolent persons, that hens should always be permitted to sit when they are disposed to do so. If they were in a state of nature, this would undoubtedly be a safe rule, as they would then hatch one, and perhaps at most two broods. But the hen, when domesticated, and fed artificially, becomes a factitious being, and is no longer governed by natural instinct merely, as in her wild state. Every one familiar with the breeding of fowls, well knows that they will sit, if permitted, in almost every month of the year. Fancy breeders may have the time and patience to take care of a brood of young chickens in January; but the farmer, who must have a constant eye to profit, cannot. Chickens, in central New-York, should never be hatched later than the first of September. I once had a brood of sixteen chickens, hatched the middle of September, many of which died of a cold chill on the 2d of December, although they were treated with ordinary care.

The ordinary notion, that late chickens lay earlier than early chickens, is, I half think, true. It seems at first sight, physiologically improbable. Possibly the reason may be, that they do not become so fat as earlier chickens.

It becomes a question of interest then to every farmer, how he can most cheaply and readily prevent the sitting of hens at untimely seasons. The following suggestions, which I saw substantially in some book, many years since, will bear repetition. I have myself practiced them for five or six years, and know their value. The treatment consists in putting the hen wishing to sit, in close quarters, where she has light, food and water, but no straw, and where she can see her associates. Three or four days confinement here will be sufficient. She may then be liberated, and will soon begin to lay again.

I use for this purpose, a sort of lattice, made by nailing two or three dozen ordinary house laths across two or three poles or strips of board eight feet long. This is set leaning against the side of the barn, in some roomy place, with the ends stopped up. This is cheaper and more effectual than any other. To dip a hen into cold water, at a time when nature has thrown her into a fever, is often injurious to her health; and to tie a red or white rag to dangle behind her, thus making her alternately the terror and laughing stock of the whole barnyard, is not generous. A. M.

Live-Stock Insurance.

The "American Live-Stock Insurance Company," incorporated by the Legislature of the state of Indiana, publish the following classes of hazards and rates of annual premiums:

Rates for Horses.—1st. Horses employed for agricultural purposes, under $125 per head in value,	3	pr cent.
2d. Over $1.25 and under $200,	3½	"
3d. Hackney, gig and carriage horses, under $200 pr head in value, for country,	3½	"
do do for city,	5	"
4th. Dray horses, for general use, under $200 per head in value,	5	"
5th. Horses, $200 per head and upwards in value, for country,	5	"
" " " in city,	5½	"
6th. Stallions, of under $200 in value,	6	"
If $200, and under $375 in value,	6½	"
If $375, and under $1000,	7	"
Sheep.—Of every description, if above 3 months old,	5	"
Rates for Cattle.—1st. Cattle, under $50 per head in value,	2½	"
If worth $75, and under $125,	3	"

Prize Bulls and Cattle of extraordinary Breed—At rates proportionate to their value, from 3½ to 5 per cent.

Cows kept in large towns are not insurable.

Stock under 12 months old, not insurable, except at extra rates, viz:

For 6 months insurance, 2-3 the rate.
3 " " 1-3 "

Risks of *Pleuro Pneumonia*, *Glanders*, and other fatal and *contagious diseases*, 1 per cent. in addition to the above rates.

For further particulars, see advertisement.

Farming in Aroostook.

EDS. CULTIVATOR—I have been engaged in farming in this county for about ten years past, and have during that time taken several agricultural papers, and think they have more than ten times paid me the cost of them in the increased productions of my farm. I have raised during the past season nearly four hundred bushels of excellent Christie potatoes, that have cost me only five cents per bushel. I have also raised at the rate of upwards of eighty bushels of corn to the acre, on one acre and one hundred and eight square rods of land, and the crop gave me, clear of all expenses, *one hundred and eight dollars.* My success in raising these crops, I attribute entirely to the information derived from reading agricultural papers. PARKER P. BURLEY. *Linneus, Aroostook Co., Me., March 25, 1850.*

Improvement in Connecticut.

A correspondent of the *Agriculturist*, who dates at Farmington, Ct., gives a favorable account of the improvements in farming in that neighborhood. In regard to the production of grass and the quality of the cattle, we can from personal observation testify to the correctness of his statements. The writer observes that there is a large proportion of land in Farmington which has formerly been considered exhausted, and has been sold as low as $3 an acre within the last twenty years; but which is now worth, to cultivate, from $40 to $50 per acre, and is still improving. He says—"Our grass lands lying in the vicinity of our main street, produce on the average four tons to the acre, both crops, (we always cut two crops, per year;) one field that was actually weighed, produced over five tons to the acre, and there are others which will equal that. There were three acres of oats, averaged 86 bushels per acre, one acre of which being limed produced 92 bushels; of corn there have been several pieces measured, some of the results I will state. One single acre produced 136 bushels; one piece of three acres produced 116⅜ bushels per acre, weighing 60 lbs. per bushel. Another piece of six acres, one acre of which was measured, produced 102 bushels, a fair average of the whole. In the same field there were three acres of potatoes, which produced something over 600 bushels sound tubers. There were other fields in corn which were estimated to produce more than the last named, but not measured. We have the pride also to believe that we rear as good horned cattle as any of our sister states. Our matched cattle sell at from three to four years of age, for 125 to 150 dollars per yoke; we can show cows from whose milk at grass alone, 2 lbs. butter per day are made; and from a town in our vicinity which is considered as one of the poorest in our state, of only a population of 633, was exhibited at a late neighborhood cattle show, a team of nearly 80 yoke, many of which were worth $100 per yoke."

Raising Pumpkins.

EDS. CULTIVATOR—Last season, Mr. Alvah D. Grenell raised large quantities of pumpkins and good corn, notwithstanding the unfavorable season. He says he always succeeds by pursuing the following course. In the fall he scrapes up the leaves and black soil in the woods, into broad winrows, about the width of a wagon or cart, and then drives over them with a load of lime, scattering it as they go. In closing up this winrow, and loading it, the lime becomes intimately mixed in, and the whole is deposited in heaps in the field, where it lies till the ground is plowed in the spring. This he thinks makes *new ground* of it, and pumpkins delight in new ground.

I was mentioning this mode of raising pumpkins to Mr. Sam. Strong. I remarked, there were scarcely any pumpkins. "Why," said he, "I have lots of them." How do you manage? "Why I did'nt do any thing;—I only drew a lot of dry leaves for my hogs to nest in, and when they got wet and worn up, put in more; and then in the spring, manured my ground with this substance." So his experiment makes good Mr. Grenell's supposition, that the leaves contain the substances proper for the growth of the pumpkin. H. V. O.

Turning Stock to Grass.

In many instances, sheep may be turned to pasture, almost as soon as the snow is gone. If there is grass of the previous year's growth, the sheep will derive more benefit from eating it, provided the ground is not too wet, and the pasturage for the present season, will be rather improved by its being cleared off. The sheep should, however, be regularly provided with what hay they want, otherwise they may fail to obtain a proper support. Portable racks or feeding boxes may be placed in some sheltered part of the pasture, and the hay supplied morning and evening, until the grass is sufficiently grown to render it no longer necessary. Care should be taken to shelter them from storms, especially while they are having lambs and while the lambs are young, and also immediately after shearing.

It is not expedient to turn cattle and horses to grass as early as sheep may generally be turned out, chiefly for the reason that the larger animals are liable to do injury by poaching the soil, and breaking and destroying the sward. On this account, it is proper to keep them in winter quarters till the ground is well settled and the grass is well started. It is advisable, in order to check the too laxative effect of succulent herbage, to allow the animals more or less hay, according to their appetites, for a week or more after they are put to grass. Milch cows are generally brought to the barn for some time after they are first turned out, and they should be closely watched, lest they become weakened by the sudden change to green food. The best of hay, and what salt they will voluntarily eat, should be allowed them while in their stalls or yards.

If the farmer is properly supplied with hay, it is best to feed working oxen at the barn till the spring work is performed. They will be stronger, and will endure labor better, fed on hay, than on grass; and there is much convenience and saving of time in having them at the barn door whenever wanted. Horses which are kept daily at work, should be fed at the stable at all times. Grass alone, is not sufficiently substantial or nutritive to impart the requisite strength to an animal whose muscles are constantly and powerfully exercised. Hence it is necessary to add grain, in certain proportions, according to the amount of labor performed. When the animal is fed in the stable, the food can be readily regulated, mixed, and apportioned, as circumstances render proper.

Culture of Carrots.

EDS. CULTIVATOR—I should like to be permitted through the medium of your valuable paper, to say a few words to dairymen and others in relation to raising carrots and other roots for the purpose of feeding their stock. Will you give your readers your opinion as to the best time of sowing the seed, and mode of cultivating the crop? I think you will agree with me in saying that it only wants a thorough knowledge of the manner of raising carrots, and their profitableness to feed all kinds of stock, to make them a common as well as a very valuable crop to the farmer. A few of my neighbors have been trying them a year or two, and have come to conclusion that the root culture is almost indispensable with good farming. They say they can (with plenty of carrots) make as much butter and cheese from the first of March, or from the time cows come in, to the first of June, as they can in the same time in summer, on the best of feed. Dairymen think of this, and try it; you will find carrots as good for feeding horses and young stock, as they are for cows. The tops are preferable to hay, to feed in fall. SUBSCRIBER. *Salisbury, April 16th*, 1850.

Carrots should be sown on warm and friable soil. They may be sown at any time after the ground is sufficiently warm to insure the germination of the seed, till the tenth of June. The ground should be in good condition as to richness, and well pulverised. The seed may be sown with a machine in drills, eighteen inches apart, the plants being thinned to three inches apart. The crop should be kept clean of weeds. (See back volumes Cultivator.) EDS.

Mode of Cultivating Corn.

EDS. CULTIVATOR—I have thought that the following mode of raising corn, as practiced by Mr. Clark, of Castleton, Vt., and others, might be of profit to some of the readers of *The Cultivator* at this season of the year, and they be led to try the experiment, and perhaps by doing so double their crop; for I doubt not there are many who do not raise over forty bushels per acre.

In the year 1847, Mr. C., from one acre, raised 117¼ bushels, by weight, (according to the standard of that State.) In 1848, 110 bushels, for which he received the premium from the Rutland County Ag ricultural Society. Last year, from 2¼ acres, he raised 275 bushels, but made no application for premium.

Green sward is invariably used, being plowed in the spring and turned over, so that the edge of one furrow will rest upon the other, after the manner of shingling. The manure being spread upon the furrows, and thoroughly harrowed, it is marked, the rows three and a-half feet apart, running north and south. A compost is made for each acre, of 10 bushels unleached ashes, 3 bushels of manure from the hen roost, and 2 bushels of plaster—the whole well mixed together, dry. (The hen manure will have to be beat or thrashed fine before mixing.) One handful is sufficient for two hills. A boy will drop it as fast as two men will plant. The seed, before planting, is soaked six hours in a solution made by dissolving chloride of lime in water sufficient to cover it, in proportion of half a bushel to a bushel of seed. If the corn is the common sized eight-rowed; put three kernels in each hill one foot apart. Cover not over one inch in depth, unless it is very dry, as the sooner the grain is up the larger the stalk will be, and the better the crop. Mr. C. says he knows from actual experience that the compost for one acre will produce more corn than fifty loads of manure. I shall try the experiment, and hope others will do the same. A. S. F. *Granville, N. Y., April* 17, 1850.

Manufactures vs. Agriculture.

Eds. Cultivator—In your marginal note on page 56, of the January number of *The Cultivator*, did you not omit to deduct the *wear and tear* in farming operations? In the first place, 25 per cent. is too high for the wear and tear of a cotton factory. properly conducted. The wear and tear on $10,000 worth of cultivated land, which is made to produce crops yearly, would, according to my observation, be fully equal to that of a cotton factory employing the same amount of capital, especially when we consider the deterioration of the soil, fences, teams, utensils, &c. I therefore think there can be no error in Professor Tucker's tables. Argus.

Domestic Economy, Recipes, &c.

Importance of Good Bread.

We make the following extract from a private letter on this subject:

"I observed that some agricultural society at the East, last year, offered a premium for the best *bread*. I should have been glad to have seen such a premium offered by our State Ag. Society. Making good bread is a most important as well as very rare accomplishment—shall I not say that it is quite as important as good plowing, or raising good cattle? I am most decidedly of the opinion that it is—but among the very good breadmakers that I have met with, none could give me directions by which another, less skilled, could succeed equally well. Is it too late for the Society yet to offer such a premium? The competition would certainly be one of great interest. But there should be an essential requisition, —that is, that every thing should be accurately stated by weight or measure, and the time required for each part of the process as nearly pointed out as practicable, and every thing else accurately described. Directions thus obtained, would prove of incalculable value. But the premium should be liberal—enough so to institute a series of careful experiments. An acquaintance, who is a very nice judge of such matters, who has travelled lately in Europe, assures me that in Paris, the best bread is as much better than our best bread, as the latter is better than a sour or unrisen loaf. He attributes a part of this superiority to the better quality of wheat or flour used in Paris, but also more largely to the eminent skill brought to bear in its manufacture. I would go a long way to eat a slice of meritorious premium bread, but much further to get the *receipt* for making it."

The Poor Man's Plaster.

Eds. Cultivator—For rheumatism and dyspepsia, I have tried no external application equal to "the poor-man's plaster," which gently irritates the skin. The common way of using it however, greatly lessens its value.

You go to the druggist's and ask for the article. It is most likely that he has kept it a long time, and the wax has become dry and hard. Now *don't let him roll it up*, though more convenient, but carry it home, flat as it came from the manufacturer's, and *prevent the wax from scaling off*.

Another thing—it is customary to heat the whole plaster, and apply it at once to the skin. If it sticks well, having been spread on stiff paper, it feels about as comfortable as a shingle would on the same spot; for on no part of the body can it be laid where the action of the muscles would not chafe it, break the grain of the paper, and cause much of it in a few days to peel off. Now listen to me. *Cut the plaster into four pieces* at least; and in applying them to the skin, *leave a finger's breadth between each piece*. This method gives *joints* to the plaster—no unpleasant stiffness is felt—the paper is not rumpled and broken—and it will last a long time. An Old Farmer.

To kill Rats without Arsenic.

In answer to a correspondent, who wishes to know how to kill rats without arsenic, we give the following from a late number of the *Farmer's Magazine:*

In or near the places frequented by these pests, place upon a slate some dry oatmeal, lay it thin, and press it flat, so that you may easily know what has been taken away. The rats, if not disturbed, will come regularly to feed upon this. Supply them thus with fresh oatmeal for two or three days, then add two or three drops of oil of aniseeds, stir the mixture well together, feed them well with this for two or three days, then for one day give them half the quantity they have usually eaten, and on the following day place the following mixture: to four ounces of dry oatmeal, scented with six drops of oil of aniseeds, add half an ounce of carbonate of barytes pounded, mix this well with scented oatmeal, then lay the mixture on the slate as the oatmeal had been placed, and allow the rats to come and eat of it without interruption. A few hours after partaking of this meal they may be seen running about as if drunk or paralytic, retiring to their haunts to die. Rats are extremely sagacious, therefore when they have eaten only a small portion of the mixture, it should not be disturbed for some time. The oil of aniseeds is disagreeable to dogs and many other animals, but, in small quantities, alluring to rats.

Bearing Years of Apples.—The Baldwin is an enormous bearer, every other year. A New-England cultivator, by altering the usual bearing year of his trees, so that his crop comes in the scarce year when the price is high, has increased his profits on the crop

Notices of Publications.

The Farmer's Guide to Scientific and Practical Agriculture.—This is the title of a work, by Henry Stephens, of Edinburgh, author of the "*Book of the Farm*," and Prof. John P. Norton, of Yale College, New Haven. The first volume of the work has already been issued in Edinburgh, and the American edition is in course of publication from the stereotype plates which have been imported. It is put forth in numbers of 64 pages each—22 numbers comprising the work. The price is 25 cents per number, or $5 in advance for the whole. The numbers can be sent by mail at periodical postage. We have received the first number of this work, and from its careful perusal, and from what we know of the writings of its distinguished authors, we venture the opinion that it will be the most complete treatise on agriculture that has ever been issued. It will treat the subject in its broadest and most comprehensive sense—fully discussing its principles and relations to the various sciences, and describing its practical details. It will be illustrated by 18 to 20 engravings on steel, and more than 600 wood engravings in the highest style of the art. Published by Leonard Scott & Co., 79 Fulton-street. New York.

Working Farmer.—This paper has been enlarged, and its typographical appearance much improved. We have received the first number of the new volume, which contains a large amount of good matter. It is edited by Prof. J. J. Mapes, and published monthly by Kingman, Cross & Co., New-York. Terms, $1 a year.

American Journal of Science and Arts.—We have received the March number of this valuable journal. It contains among other articles of importance, an article on the "Connection between the Atomic weights and the physical and chemical properties of Barium, Strontium, Calcium and Magnesium, and some of their compounds," by Prof. E. N. Horsford; "Observations on the Size of the Brain in various Races and Families of Man," by Dr. S. G. Morton; "An account of some Fossil Bones found in Vermont, in making excavations for the Rutland and Burlington Rail Road," by Zadoc Thompson; "On the American Prime Meridian," by Prof. J. Lovering; with much other interesting intelligence. Conducted by Professors Silliman and Dana. Published at New Haven, on the first of every second month, at $5 a year.

British and Foreign Medico-Chirurgical Review; or Qurterly Journal of Medicine and Surgery. This high-standing periodical is republished by Messrs. R. & G. S. Wood, 26, Pearl-street, New York. It should be in the hands of every practitioner of the healing art. Terms, $3 a year.

Illustrated Self-Instructor in Phrenology and Physiology, with one hundred engravings, and a phrenological chart of character; by O. S. & L. N. Fowler. This is an interesting manual to those who wish to inform themselves in regard to the subjects on which it treats. It is very handsomely "got up," and is sold for only twenty-five cents. Published by Fowler & Wells, New-York.

Experiment with Ashes.—A correspondent of the *New-England Farmer*, spread "on a small square of a few rods" ten bushels of ashes. on worn-out meadow. "The grass there was three feet high, while all around, with equal advantages, except ashes, it was hardly five inches high in July."

Answers to Correspondents.

Clayey Land.—M. V. B. B., Fishkill, N. Y. The first step towards the improvement of this land, is to drain it thoroughly by under drains. Then plow it seven inches deep, following with the sub-soil plow, which should be run at as great a depth as the team can move with it. Use plenty of coarse manure, and work it well into the soil for the double purpose of letting in the air—which effects favorable changes in clays—and of making the soil more loose. The muck you speak of, will have the effect to loosen the soil, and will also act as manure; but it will be better to let it lie in heaps one season before it is applied, to dispel the acids it usually contains when in its natural beds.

Cultivator for stony lands.—J. W. G., New Fairfield, Ct. The steel-tooth cultivator is best for stony and rough land, and best for working among corn, except where the ground is very light and clean from weeds or grass. It may be had at the Albany Agricultural Warehouse. Price, $7; with cast iron teeth, $5½.

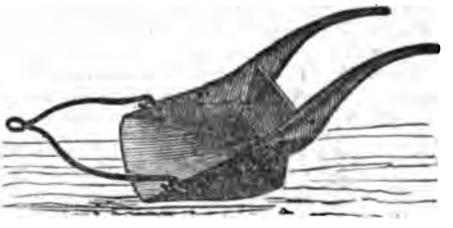
Grafting.—W. A. E., West-Springfield, Mass. The wild black cherry is of no value as a stock for grafting the cultivated varieties. The various kinds of native thorn will answer for grafting the pear. It is best to graft close to, or below the surface of the ground.

Merino and Leicester Rams.—J. W. W., Spring-Grove, S. C. The best opportunity for you to buy this kind of stock will be at our State Fair, first week in September next. They can be had, probably, at all prices, from ten to a hundred dollars a head. The fall is the best time to take them south.

Bones.—M. D., Jr., Lynchburg, Va. You will find the best direction for preparing bones for manure, in the series of articles now in course of publication in our columns, by Prof. Norton.

Work on Agriculture.—A New-York Mechanic. As a work calculated to furnish "a good fundamental and practical knowledge of farming generally," we would recommend the 'Farmer's Guide.'

Location for a Mechanic to engage in farming.—J. F., New-York. We should think Wisconsin or Northern Illinois would afford good situations for such a person as you mention. A residence near some thriving village or town, where there are good facilities for a market, would be desirable.



Cast Iron Dirt Scraper.

This implement is made in various forms. The cheapest and best are now made of cast iron for bottom, sides and edge, with wood back and handles, and wrought iron bail. They are extensively used for excavating and filling up for buildings, and for making and repairing roads. The prices vary, according to size and weight, from $4.50 to $10. They may be had at the Albany Agricultural Warehouse.

Notes for the Month.

Communications have been received, during the past month, from Dr. S. D. Martin, W. C. Carter, N. W. McCormick, A Sheep Man, H. C. W., T. M., A. M., Prof. J. P. Norton, Chas. L. Fleischman, A Subscriber, A. B., W. L. Eaton, A New-York Mechanic, D. M., Sylvanus, An Old Farmer, One of your Subscribers, A. S. F., C. C., Niagara.

Books, Pamphlets, &c., have been received as follows:

The Massachusetts System of Common Schools; being a revised edition of all the Laws and Regulations in force in that State, in relation to its public schools. Also,

The Thirteenth Annual Report of the Mass. Board of Education, for 1849—both from Wm. Bacon, Esq., Richmond.

A lithographic print of the Cotton Plant, in its various stages, drawn from nature by C. L. Fleischman, U S. Consul at Stuttgard, and published at that place—decidedly the best exhibition of the plant which we have seen.

An Essay on Manure, by Dr. S. L Dana—from C. M. Saxton, publisher, New-York.

The Journal of Agriculture, and Transactions of the Highland and Ag. Society of Scotland, for January and March, from Blackwood & Sons. Edinburgh.

The American Bird Fancier, by D. J. Browne, from C. M. Saxton, publisher, New York.

The Advocate of Veterinary Reform, and Outlines of Anatomy and Physiology of the Horse; also, a Veterinary Dictionary, by Geo. H. Dadd, M. D. From the author. Boston.

Transactions of the Trumbull County, (Ohio) Agricultural Society, for 1849, with the Address, delivered by Samuel St. John, A. M.

Plants from California.—A letter received from Wm. R. Prince, dated Sacramento City, Jan. 27th last, states that a large collection of seeds of rare forest trees, shrubs and flowering plants, which had been collected by him in California, had been forwarded to Flushing, Long-Island, for the establishment of Mr. Prince. The collection is said to embrace 150 species, comprising the most splendid specimens of the Flora of that interesting region. We understand that there are several species of oaks, pines and other trees, bulbous plants, &c., the introduction of which, to our region, will be either useful or ornamental.

Analysis of Soils, Manures, &c.—In answer to several inquiries, we will state that Mr. J. H. Salisbury, of this city, is prepared to make analyses of soils, rocks, manures, &c, at the following rates:

1.	Complete quantitative analysis of a soil,	$5
2.	Complete organic analysis of a manure, marl, or peat,......................	5
3.	Proximate organic analysis of manure,..	5
4.	Analysis for obtaining one ingredient,..	1
5.	For information on any particular subject,..................................	1

The above fees to accompany all samples or communications, which may be directed to the Secretary of the N. Y. State Agricultural Society.

Large Corn Crop.—R. W. T., of Newton-Centre, Mass., writes that he raised last year, on an acre and one hundred and twenty-four rods of ground (or a little over an acre and three-fourths,) 424 bushels of ears of corn, two of which, he thinks equal to a bushel of shelled corn. The ground was formerly a frog pond. It had been drained and had borne good crops of grass for two or three years. It was plowed in the spring of 1849, heavily manured with barn-yard manure, and planted to corn—the above being the result.

Dairying.—A correspondent requests us to ask information, from practical dairymen, in regard to the following subjects: What are the best breeds of cows for the dairy, and how much butter may be expected from each cow in a year? What is the most profitable mode of feeding cows in the different seasons? It will afford us pleasure to receive and publish any articles which can throw light on these subjects.

Poisonous Lizards.—N. Howard, Esq., of Stephentown, N. Y., informs us that there is a species of lizard that is poisonous to fowls, if eaten by them. It is described as the "red lizard." Mr. H. states that he has in several instances known fowls killed by eating this reptile. In one instance, a fowl died suddenly, and on opening its crop one of the lizards was found; in another instance, a fowl, which was in good health was seen to eat a lizard, and in a few minutes afterwards was taken sick, staggered and soon died. Mr. H. is a close observer, and not likely to be mistaken in his conclusions.

Transmutation.—We do not intend to bore our readers with this subject; but are under the necessity of alluding to it occasionally for the purpose of explanation. Mr. Theodore Probasco, of Quaker-Town, N. J., writes that, until lately, he has always believed that chess would not grow from wheat; but his former opinions have been changed by a wheat-head having been shown him, from which projected a "fibre containing six chess-grains." We have seen several cases of this kind, and have more than once explained how they occurred. The panicle to which the chess is attached, is entangled or wound into the wheat-head, and when it gets dry is broken from the parent stem, and appears attached to the wheat. On carefully opening the wheat-head, the manner of connexion will be plainly seen.

The Bee-Moth.—A new plan of preventing the ravages of this depredator, is given in the advertisement of Mr. Whalen, in this number. Personally, we have no knowledge of the discovery; but it appears to be new, and may be tried without much expense or risk. Mr. Whalen is the presiding officer of the Saratoga County Agricultural Society, and is not unknown as a writer on agricultural subjects.

Fat Oxen.—Our attention was called a few days since, to a pair of fat oxen, owned by James L. Monier, of Naples, Ontario county, which were on their way to New-York. Their weight, according to the bill of charges from the railroad agent, was 6,325 lbs. They are six years old this spring. As their blood is not particularly known, they are called of the "common stock." Their present owner purchased them of Mr. Munday, of Allegany county, when they were about two years old. They are both small-boned, well-made animals, and one of them, (the smaller of the two,) will compare favorably in symmetry and quality, with any ox we have seen.

Short-Horned bull Locomotive.—In Dr. Martin's communication, on another page, this animal is spoken of as though he were living. Mr. Ambrose Stevens desires us to say that he had been informed that Locomotive died some three or four years since, and that he supposed this was the fact when he wrote the article to which Dr. M. alludes. He wishes to be informed whether Locomotive is still alive.

Horses Gifford Morgan and General Gifford.—The whereabouts of these noted horses will be seen by the advertisements of Mr. Arnold and Mr. Ingersoll, in this number. The first named horse is so well known that nothing need be said here in regard to him. The latter is a colt of the former, and has acquired considrable celebrity in the central part of this State, having been owned for several years by Messrs. Mason & Munro, of Onondaga county. Mr. Marks, of Onondaga county, also advertises an excellent young horse of the same stock.

Sale of Short-Horns.—We are informed that George Vail, Esq., of Troy, has recently sold to Mr. Humphrey, of Michigan, a bull called American Comet, 2¼ years old, by Meteor, dam Hilpa,—together with two cows and two calves, all except one having more or less of the blood of the "Bates' stock." The aggregete amount paid for these animals, we learn, was $1,000—the bull being reckoned at $300. We trust the enterprise of the purchaser will be properly rewarded.

Tarring Seed Corn.—Mr. Durand writes us that a mistake occurred in regard to his mode of preparing seed-corn, as given in our last, (p. 123). He says —"It should be soaked 24 hours in strong saltpetre-water; then take a small quantity of tar in a basin and water enough to cover the tar; simmer over the fire till the tar dissolves with the water, and turn it on the corn, and stir with a paddle till the corn is smeared; then plaster till the corn will separate freely."

Pitts' Separators.—These machines are still being manufactured at Rochester, N. Y. They are of great importance in grain-growing districts, and so far as we learn, give entire satisfaction. They can be adapted to threshing machines of any kind. For particulars see Mr. Pitts' advertisement.

Transmutation.—Mr. Alex. Culbertson, of Pleasant Unity, Pa., writes—"The idea of the transmutation of wheat into chess, is an error which is caculated to do great injury to the farmer, because he is not likely to use much effort to get rid of a pest which he thinks will return with the first injury done to his wheat, either by winter-killing, by the fly, or by late pasturing. In proof of the fact that nature does not cut such wild capers, there are farmers within my knowledge who have not a stalk of chess on their farms, although their wheat is liable to the same casualties that other wheat growers experience, but they, of course, are not believers in transmutation. One of them has been many years a reader of *The Cultivator*, and being a man of mind and good judgment, his reading of agricultural works tells well on everything about him."

Gilmore's Bee-House.—An advertisement of this article will be found in our present number. We have formerly known the inventor of this bee-house, as a successful manager of bees, and we learn from various persons in Maine, that this plan is thought to possess important improvements.

☞ We noticed in our last number some of the fine animals killed for the display of meat in this city, on the 22d of February last. A correspondent, who dates at Schodack-Centre, informs us that Wm. Castle had in his stall, in the Centre Market, on the day alluded to, a calf, raised and fatted by Milton Knickerbacker, Esq., of Schodack-Centre, which, taking age into consideration, he thinks was "far superior" to any of the animals spoken of by us. We did not see this calf.

☞ Morse's Grey, a well known and valuable horse, it will be seen by the advertisement of Mr. Grant, is at his old stand.

Suffolk Pig.—Messrs. Burdett, of Cambridgeport, Mass., furnish to the *Plowman* an accout of a Suffolk pig, which was bought by them on the 8th of July, 1849,—at which time it weighed 110 lbs., alive—and was killed on the 4th of October followin, when it weighed, dressed, 370¾ lbs.—making a nett gain of over three pounds per day. The same paper gives an account of another Suffolk pig, thirteen months old, fatted by J. W. Kimball, Charlestown, Mass., that weighed, dressed, in Faneuil Hall Market, 470 pounds.

Clinton County, N. Y. Agricultural Society.—We have received a copy of the premium-list of this society for the current year, together with a copy of the constitution, and an able address to the "farmers and friends of agriculture" in that county. The farmers of that section are much awakened, and are making rapid improvements. The officers of the society are Elias A. Hurlbut, President; Peter Keese, Samuel H. Moore, S. V. R. Havens, Anderson Keese, J. S. Stetson, Z. C. Platt, Roswell O. Barber, John W. Bailey, A. J. Moses, John Dunning, Vice-Presidents; Willetts Keese, Peru, Secretary; Jonathan Battey, Treasurer.

Harrowing Wheat in Spring.—Myron Adams of East Blooomfield, N. Y., has for many years harrowed over the whole of his wheat fields every spring, pulverising the crust and greatly benefitting the crop. If the ground is to be seeded with clover, it is harrowed in at this time. The whole amount torn up by the roots has been found by examination not to exceed the amount of a bushel on ten acres. The wheat looks rather unpromising when thus dusted over with earth; but the first shower washes it off, and leaves it clean, fresh and vigorous.

Corn-fields and Corn-cribs of the West.—The *Cincinnati Gazette* states that James Davis, of Waverly, Ross county, Ohio, cultivates eighteen hundred acres exclusively in Indian corn, and had last winter a corn-crib filled, which was *three miles long*, ten feet high, and six feet wide. It states further, that on the Great Miami Bottom, about 25 miles below Cincinnati, there is one field, (belonging to several owners,) seven miles long by three miles broad, which has been regularly planted to corn for nearly half a century. In the Wabash Valley there are also extensive corn-fields—one between Terre Haute and Lafayette, being ten miles long.

Wheat Changed to Oats!—Prof. Lindley received a head of wheat, which had grown in an oat field, having a real, genuine oat flower growing out of it! He supposed that the oat had been stuck in by some one trying to mystify philosophers, but a careful examination showed the suspicion unfounded. Glue was next taxed, but no glue was found. The headwas next pulled to pieces by the Doctor's old experienced botanical fingers, when the mystery was laid bare; the slender stalk of the oat flower had become twisted round the ear of wheat when both were young, and they had both grown up in strict embrace, the wheat chaff completely concealing the oat stalk, till the latter, becoming accidentally snapped off in some unknown manner, the oat was left fast to the wheat. "The union," says Dr. Lindley, "was so perfect that it would have been almost certain to deceive every eye except that of an unbelieving naturalist." It would have been a very interesting specimen for our friend of *The Michigan Farmer*, to have deposited in his cabinet of curiosities.

Large Farming.—H. L. Ellsworth of Fayette, Indiana, conducts the business of Farming in a decidedly princely manner. He had last year, a thousand acres of corn, which yielded about fifty bushels per acre, making about fifty thousand bushels, which he has been feeding to twelve hundred hogs.

SALE OF THE BATES HERD OF SHORT-HORNS.—The *Mark-Lane Express* of April 1st, contains an advertisement by Mr. STRAFFORD, stating that he will sell by auction, on the 9th of May, this celebrated herd—consisting of 22 bulls and 48 cows and heifers.

☞ The attention of northern farmers, who wish to change their location, is invited to the advertisement of Dr. PECK, in another page, who offers for sale a large tract of land on Long-Island, which, it appears to us, offers great inducements to purchasers, from its nearness to markets, its susceptibility to improvement, fine climate, and cheapness.

IMPORTATION AND SALE OF STOCK.—Mr. L. G. MORRIS, of Mount Fordham, Westchester county, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States. He purposes to attend the sale of short-horned cattle belonging to the estate of THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd will take place in October. Whatever stock he may import will be at his place at the time of sale. Printed catalogues of the animals to be sold will be issued in due time.

QUANTITY OF SALT YET ON HAND.—Soundings in the sea, according to Bakewell's Geology, have been made one mile and a quarter deep. Laplace, from calculations on the tides, showed the depth of the ocean to be not less than ten miles. This contains salt enough to cover the whole one thousand feet thick; or enough to cover all dry land half a mile thick. Sea water has 2½ per cent. of common salt, and ½ per cent. of other salts.

Vermont Premium Crops.

The Rutland County, Vt., Ag. Society, paid premiums for the following crops, the growth of 1849. *Winter wheat*, 38¾ bushels on one acre and five rods; *Spring wheat*, 41 bushels 9 quarts, on one acre—the land "mountain sheep pasture;" *Indian corn*, 88½ bushels on one acre; *Oats*, 88¾ bushels on one acre; two other competitors raised 72 bushels and 64½ bushels per acre; *Potatoes*, 335½ bushels on half an acre.

The Addison County, Vt., Ag. Society awarded premiums for the following crops, the growth of 1849. *Winter wheat* 44 bushels per acre: *Spring wheat* 41 bushels per acre; *Indian corn*, 93 bushels per acre; second and third premiums 88 and 78 bushels per acre; *peas*, 32 bushels per acre; *sugar beets*, 305 bushels on a quarter of an acre; *carrots*, 268 bushels on a quarter of an acre.

The Orange County, Vt., Ag. Society, awarded premiums on *Wheat*, (supposed to be spring wheat,) as follows: 39½, 39¼, 37½, 32¾ bushels per acre; on *rye*, 42⅜, 39½, 22¼ bushels per acre; *Indian corn*, 110, 96⅜, 94½, 91 bushels per acre; *barley* 30¼ bushels per acre; *oats* 89, 78, 69 bushels per acre; *carrots* 245½, 230, 203, per quarter of an acre.

The Windsor County, Vt., Ag. Society, awarded premiums for *winter wheat* 43½ and 38 bushels per acre, 38 bushels per acre on three acres; *spring wheat* 31¾ bushels; *oats* 83¾ bushels per acre, on four acres; *Indian corn* 128 bushels per acre, 104 bushels per acre, on four acres; *potatoes* 363¾ bushels per acre, 208 bushels on half an acre.

Prices of Agricultural Products.

ALBANY, APRIL 20, 1850.

[*Review of the Market for the last month.*]

FLOUR.—The market has maintained an uniform character, with a tendency during the last few days to more firmness on the part of holders, and an advance in the better grades. This feeling, so different upon the near approach of the opening of the canal is caused by the apprehension of light supplies from the lakes; from which point flour is shipping south by the various canals and railways, inducing at New-York some slight speculative feeling. To what extent this will continue remains to be seen; we perceive however that a shipment of some 3,000 barrels of flour from Chicago for St. Louis, had made the market at the latter place dull, and flour on the 11th was quoted lower. The sales have averaged about 3000 bbls. weekly, closing at $4.62½*a*$4.75 for common state, $4.87½*a*$5.12½ for ordinary to favorite state, $5.12½*a*$5.25 for Michigan, $5.37½*a*$5.50 for pure Genesee, $5.62½*a*$5.75 for fancy Genesee and Ohio, and $5.87½*a*$6.25 for extra.

GRAIN.—The same speculative feeling in regard to flour, is applicable to wheat, of which the market at this point is completely bare; the only sale made, on the spot, was a lot of 8000 bushels Genesee, at about $1.28½—part not strictly prime, going at a lower figure; and on Saturday, 2600 bushels prime Genesee and 2500 do Mediterranean, to arrive by canal, sold on private terms. For rye, the supply has been from the street, and quotations have advanced to 58*a*59c. Oats have continued in good demand, and sales in the street have steadily advanced from 37½ to 40*a*41c. at which figure they are firm; from store, we notice a sale to-day of 1500 bushels, at 42c. and 2500 bushels from the road within a few days, at 39½; to arrive by canal, a sale was made on the 23d ult. at 43c. In Corn, beyond the street supply, there has been nothing done; quotations have ranged from 55*a*57c., closing at the higher figure. In Barley, the street supply has been limited, and prices have ranged from 65*a*75c. according to the wants of purchasers; the closing figures were 67*a*68c., with little or none arriving; for parcels to arrive there has been much speculative feeling, and sales have been made, delivered from the canal, at from 61*a*66½c. for two and four rowed, a sale at the higher figure having been effected on Saturday; holders generally ask 70c., and that and a higher figure is looked for within a few weeks, owing to the demand for the article in the western states; at Cleveland 80c. has been paid, and at Milwaukie 70*a*75c. Barley malt is 78*a*80c., at which figures some 10,000 to 15,000 bushels have been taken. Small peas 87½. White beans $1.50.

WHISKEY has been a dull market, owing to the light receipts; prices have generally declined and S. P. bbls. are quoted at 23½c. with none in first hands.

SEED. The market both here and at New-York is very dull, and the trade is almost a retail business; quotations for lots may be given at 6½*a*7½ for Ohio and State medium, and 8½*a*9½ for larger. Timothy is also dull at $2.50*a*$2.75; for Canadian and State, $2.62½*a*$3.

WOOL. The near approach of the opening of the Canal, and of the new clip has had a tendency to reduce prices. The sales during the month have been 116,000 lbs, about one-half of which sold on private terms, and the balance at prices ranging at 33½*a*31c. for No. 1 pulled, and 36½*a*35c. for super.; the closing sale to day was made at 32 and 35c.

PROVISIONS. Beyond the ordinary retail demand, we notice sales 286 bbls. Beef Hams, at $16.50 for country, and $17*a*$18 for city, closing at the lower figure; 10,000 lbs. smoked hams at 9c. and 17 hhds. pickled hams at 7½c. The retail figures for Cut meats are 7½*a*8c. for Western smoked hams, and 9c. for city; Shoulders 5*a*5½c. Lard 7*a*7½c. in bbls. and kegs. Butter 8*a*10c. for Ohio, 12*a*14c. for common state, and 16*a*18c. for good. Cheese 6½*a*7½.

John A. Pitts,

Manufacturer of THRESHING MACHINES and DOUBLE PINION HORSE POWERS, 68 *South St. Paul Street, Rochester, N. Y.*

THE subscriber continues the manufacture of the celebrated "Pitt's Separator." It is the same machine that has stood, and now stands unrivalled by any machine for Threshing and Cleaning Grain, in existence. It has been exhibited at State and County Agricultural Fairs, in the United States and Canada,—always receiving the *First Premium.*

The Horse Power, for strength, ease, durability, and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two full pinions, each receiving equal power; 2 bevel wheels, driven by the full pinions, connect with two pinions, on the line shaft; thus it will be seen, this Horse Power is double the strength of any single geared Power. It may be driven with from two to ten horses, depending upon the power required.

The Machines have fully sustained all I claim for them; I therefore solicit orders from those who would secure the best Threshing Machine and Horse Power.

Please address as above. JOHN A. PITTS.
Rochester, May 1, 1850—3t.

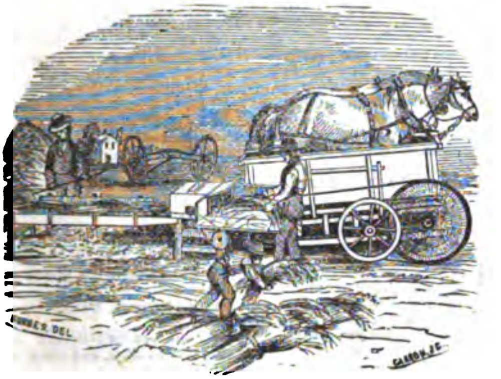
Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.



Wheeler's Patent Improved Railway Chain

Horse Power, and Overshot Thresher & Separator.

THE subscribers, proprietors of the Patents for these Machines, and manufacturers of them, having recently increased their facilities for manufacturing are now prepared to fill orders for machines, and to establish and supply agencies to any extent that may be desired.

These machines are favorably known wherever they have been used or exhibited. They have taken premiums at many different State and County Fairs held in Massachusetts, New York, New Jersey, Pennsylvania, Ohio and also in Canada, never having competed for premiums without success and flattering commendations.

As many as 2,000 of them are now in use, of which over 500 were sold the past season.

The accompanying cut gives a view of a two horse machine at work, with the hands necessary to attend it. It will thresh from 125 to 200 bushels of wheat, or twice the quantity of oats per day. The one horse power or single machines thresh rather more than half as fast as the double ones.

These horse powers are strong and durable, and run extremely light. With one end of the power slightly elevated (as represented in the annexed cut,) the weight of the horse alone affords sufficient power to thresh at the rate before stated, or to drive circular and upright saws, or any other machines used by farmers requiring propelling power.

The Overshot Thresher takes the grain from a level feeding table or apron, (of a proper height to allow the feeder to stand erect and feed, without annoyance from dust,) and passes it through a toothed or spiked concave or bed, placed over the cylinder. A recent improvement admits of lowering the concave so as to bring it nearer the cylinder, and at the same time so varying the inclination of the spikes, as to set the machine for threshing tough or damp grain, or short oats, and resetting it at pleasure, for long rye or wheat or oats in good order, or for timothy, grass or clover, and all this is accomplished without stopping the machine, so simple is the process. By means of the Separator, the straw, as it comes from the Thresher, is effectually separated from the grain.

The Power, Thresher and Separator, complete, for either one or two horses, is easily loaded on a common farm wagon; but where frequent moving is desired, the two horse machines are placed on wheels in such a manner that when used for threshing, the forward wheels are removed, dropping that end of the power, and leaving the opposite end elevated on the other axle, ready to receive the horses. By this arrangement, (which has been made for the convenience of those who make threshing a business, and for partnership machines,) two men can with ease set a two horse machine ready for work in 15 minutes, and re-load it for moving in the same time.

W, M & Co. also manufacture Stalk, Hay and Straw Cutters, to be used with their Horse Powers, and also Circular Saws and Benches, for cutting ordinary fire wood, and locomotive and other fuel.

Every machine made or sold by W. M. & Co, or their agents, is WARRANTED to work to the satisfaction of the purchaser, or it may be returned to them, or to the agent of whom it may have been purchased, within sixty days, and the purchase money, (if paid,) will be refunded.

These machines are so light, compact, and easily handled, as to admit of transportation to any part of the country with trifling expense—the weight of the two horse machine, complete, being less than 2,000 pounds, and of the one horse, about 1,200.

The manufacturers are now establishing agencies in all parts of the United States and Canadas, where they are needed to facilitate the sale of these machines. Good agents are wanted in the Southern and Western States and the Canadas, to whom liberal commissions will be allowed.

HORACE L. EMERY, Esq., is a general agent for the sale of these machines in the State of New-York, and is sole agent for the city of New-York, and the New England States.

Our other agents, as far as definitely ascertained, are—Rapalje & Briggs, Rochester; T. C. Peters & Brother, Buffalo; Peter R. Sleight, Esq, Poughkeepsie; F. F. Parker & Brother, Detroit; —— ——, Chicago; W. D. Bacon, Waukesha, Wisconsin; John Melick, Trenton, N J.

These machines can also be had of John Mayher & Co., New-York city.

WHEELER, MELICK & CO.,
Hamilton street, corner Liberty and Union sts., Albany, N. Y.

No Humbug.

THE undersigned, after 20 years' experience and much research, has discovered a cheap chemical compound, easily applied, which completely prevents the ravages of the Bee-moth, and which can be adapted to each and every kind of hive, whether patent or otherwise. This discovery he will impart to any individual on the receipt of one dollar. It being understood the purchaser shall hold himself honorably pledged, not to impart the information to others. The whole contained in a circular, to which is added several valuable suggestions in the construction of hives and management of bees, worth more than any patent hive in existence.

Address, post paid, SETH WHALEN,
May 1, 1850—3t * Ballston Spa, N. Y.

10,000 Acres of Long Island Land for Sale,

At Lake Road Station, or Irvington.

THE undersigned is, and has been for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 10,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi-distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 48 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the north and south side of this land,—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkama Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the south of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 feet deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New-York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations,—but with all the privileges and comforts of an old one. Apply to A. B. ALLEN, Esq., Editor of the *American Agriculturist*, 187 Water Street, New-York, or to

E. F. PECK,
306 State Street, Brooklyn, L. I

☞ Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there.

May 1, 1850—3t.

Burbank or Morgan Chief.

THIS Horse will stand the present season at the stable of the subscribers in Warren, Mondays and Thursdays: at Waitsfield, Tuesdays and Wednesdays; and at the village in Rochester, Fridays and Saturdays.

This horse was sired by the celebrated Old Woodbury Morgan, afterwards known by the name of Burbank Morgan. His dam was known by the name of Empress, and was sired by the original Justin Morgan Horse. It will therefore be seen that this horse possesses equally as much Morgan blood as either of the four Stallions sired by the Original Morgan, and more Morgan blood than any other stallion now living, except the Old Gifford, which was sired by the same horse. For further particulars, see our bills.

WRIGHT & ELDREDGE.
Warren, Washington county, Vt., May 1, 1850—2t.*

Geo. Glenny's New Farm & Garden Newspaper, "THE COUNTRY GENTLEMAN,"

IS published in London, on Mondays in time for post, with the latest market prices of Corn, Meat, Cattle, Seeds, and Money, and is the very best weekly Review and Family Newspaper in England, as well as the acknowledged highest authority in all matters connected with Horticulture. Price 6s. 6d. per quarter in advance.

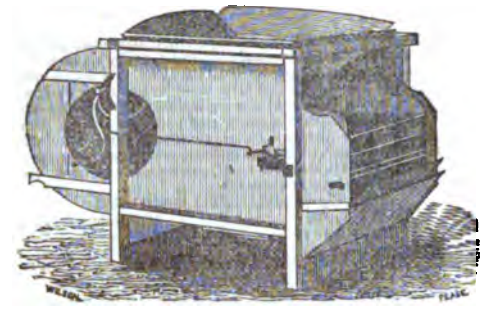
Address GEO. GLENNY,
March 1—3t. 420 Strand, London.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman
Feb 1—6ms. JOSEPH CALD ELL.

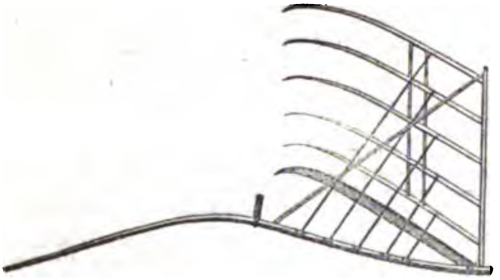


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society. for 1847, it will be seen that they were tried by several large farmers. and highly approved. One farmer. it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—" The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—" Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention.

I. T. GRANT & CO.

Junction P. O , Rens. Co., 8 miles north of Troy

May 1, 1850—tf.

Sir Walter

WILL stand the present season (for a limited number of mares,) at the stable of the subscriber, one-fourth of a mile north of the Railroad Depot, in East Hartford, Main Street SIR WALTER is a fine natural trotting horse; was six years old last June; is a beautiful dapple bay, fifteen hands and three inches in height; weighs 1175 lbs: and by the best judges, is pronounced the most *Perfect Horse* in this part of the country. His stock in the neighborhood of Wilbraham, Mass., stands unrivalled.

Sir Walter is three-fourths English and one-fourth Morgan. He was sired by the imported horse Sir Walter, who was justly celebrated for symmetry of form, speed, ease and elegance of action. His dam is from a Morgan mare, by the English horse Pincher, formerly owned in Pennsylvania and was sold for $1100. *Sir Walter* obtained the *first premium* at the Hartford County Agricultural Society, last fall. He was purchased and brought into the county for the express purpose of improving the breed of horses. The terms are therefore put low, viz. $4, a single leap, and $6 the season. Insured by agreement. During the two past years, he has covered more than two hundred mares. All persons interested in breeding *fine horses* are invited to call and judge for themselves. Mares from a distance will be pastured and well taken care of on reasonable terms.

HENRY OLMSTED.

East Hartford, Ct., May 1, 1850—1t.*

Merino Sheep for Sale.

THE subscriber has a few choice full blood Paular Bucks still on hand; also, a few yearlings and lambs from his Paular ewes, and a Buck imported by J. A. Taintor, Esq., which promise to be of unequalled beauty of form, hardiness of constitution, fineness and quantity of wool. Price from $10 to $15.

Also, a few ewes of the same breed. Price $10 to $20.

Those who wish to secure a selection from this lot of sheep, will do well to make their selection, or send in their orders at an early day.

They can be shipped to any part of the United States with perfect safety.

ALFRED H. AVERY.

Galway, Saratoga Co., N. Y., May 1—1t.*

Gilmore's Patent Bee-House.

HAVING purchased the right of using and selling the above valuable improvement for several of the counties of this State, the subscriber would invite the attention of Farmers, Gentlemen of Leisure, and Mechanics to the subject.

The objects to be gained by this invention, are as follows: The swarming of bees in the open air is entirely obviated, and they will increase faster—combining any number of swarms or stocks of bees into one body or republic, thus uniting their strength against a common enemy; and by changing the relations the bees sustain to each other, doing away with all cause for discord or quarreling. The hives are so constructed as always to be kept fresh and pure, and also a succession of new comb. This is indispensable to the health and success of the bee, affording a perfect protection against the ravages of the "bee moth." An arrangement of boxes, tumblers and jars is attached to the hives, into which the bees will deposit their honey as readily as in the hives; they may at any time be removed, without in any way injuring or killing the bees, or disturbing those in the hive. The bees may at pleasure be removed from one hive or part of a hive into another, without the apiarian being in any way exposed, and without injury to the bees. In connection, there is a receipt for a preparation for "Feeding Bees," by the use of which honey can be made purer and in much larger quantities at a trifling cost. The whole arrangement is very cheap and easy of construction.

By this system a degree of perfection is attained never before realised, effectually doing away with all the objections to keeping bees, and making them a source of infinite profit.

Prices.—Individual right to make for his own use, and using any number of hives, including a receipt for the preparation, $10; a right to make and use three hives only, $5.

All communications upon this subject, addressed to the subscriber, post paid, will be promptly attended to.

JOHN H. HIDLEY.

Post Office address, Troy, N. Y.—Residence, Greenbush, Rensselaer Co., N. Y.

The Plow that Beats the World.

RICH'S PATENT IRON-BEAM PLOW.

THIS Plow has become the universal favorite of the farming community wherever it is known. It is but two years since it was first introduced in Northern New-York, in which time it has attained a popularity beyond that of any other plow yet known. Messrs John Rich & Co. manufactured and sold upwards of one thousand of these Plows last season, in the months of May, June, July, August and September. The first premium was awarded these plows, at every Fair where they were exhibited, viz., Saratoga, Montgomery and Rensselaer, and at the Great Fair of the American Institute, Castle Garden, N. Y.

The success which attended this plow the last season, has prompted the subscribers to extend their business facilities, so as to be able to supply any calls that may be made upon them, which was not the case last season. The great advantages attained by these Plows over others now in use, are—1st. they require near one-third less draft of team; 2d. they are much easier held or guided; 3d. the form of the beam is such that it cannot choke under the beam; 4. the form and construction of the mould-board is such that meadow or mucky soil, will not adhere to it and clog it as is the case with other plows. 5. They are less liable to get out of repair, and much easier repaired when needed; 6. They pulverise and work the soil most admirably; 7. the shortness of the beam bringing it near the team, which is a great advantage in point of draft, ease in guiding the plow, and turning the team, as well as beauty of work. In short, it possesses every good quality which the patentee, a man of forty years' experience, has been able to combine. More than two thousand recommendations in favor of this plow, among which are many of the ablest and most scientific farmers in the United States, can be obtained; but the subscribers, in preference, respectfully submit it to the tillers of the soil, in competition with any Plow ever offered to the public.

Manufactured and for sale, wholesale and retail, by

BOSWORTH, RICH & CO., Patentees,

May 1, 1850—1t 335 & 437 River-St., Troy.

Improved Short-horns—Bates' Stock.

IN the August (1849) number of *The Cultivator*, is an article by me on the Short-horns, which I imported last year for Mr. Sheafe, Col. Sherwood and myself. The January number contains strictures by S. P. Chapman, on so much of my article as relates to the bull, 3d Duke of Cambridge. As Mr. Chapman does not understand my views, and therefore mis-states and mis-construes them, it is necessary to answer him. He makes many assertions and takes positions, which present questions and issues, so numerous, complicated and extensive, that, *at present*, I must leave them unnoticed. There is beside, *just now, a strong propriety* in not discussing these issues. As soon as *this condition* ends, *I shall resume the subject, and will fully consider them.* In this notice, I propose merely to state my meaning in the paragraph, to a portion of which Mr. Chapman objects, as *he* understands it, and refute one of his positions. To be clear, I must re-produce the passage entire. Speaking of the 3d Duke of Cambride, I said:

"I have great pleasure in knowing that I have brought to this country so superior a bull from the herd of that eminent breeder, Mr. Bates. He is the *only* bull in America got by Mr. Bates' *crack-prize* bull, Duke of Northumberland (1940,) the best bull Mr. Bates ever bred. Mr. Bates has *but one* more left got by the same bull; and Duke of Northumberland is now dead. Mr. Bates repeatedly told me that 3d Duke of Cambridge was more like his sire than any bull ever got by him. Breeders desiring the blood of Mr. Bates, can no where else in this country procure it *with such high characteristics of style, quality, symmetry and substance.*"

Mr. Chapman quotes *merely* the last sentence and discusses it alone. The whole paragraph being connected, and the last sentence the conclusion or deduction, and the whole having been the subject of remark, I will briefly state what it *only* means, and was meant *only* to mean. I mean by it, that I have brought to America a superior bull from the herd of Mr. Bates; that this bull, 3d Duke of Cambridge, (5941,) is the *only* bull in America *got* by Mr. Bates' *Duke of Northumberland*, (1940;) that Duke of Northumberland, (1940,) was Mr. Bates' "*crack prize*" bull, and was the *best* bull Mr. Bates ever bred; that Mr. Bates has but one more bull got by Duke of Northumberland, (1940;) that the Duke of Northumberland, (1940,) is dead, and that Mr. Bates repeatedly told me that 3d Duke of Cambridge, (5941,) was more like his sire, (Duke of Northumberland,) than any bull ever got by him, (Duke of Northumberland.) In 1845, Duke of Northumberland died. In July, 1848, Mr. Bates owned but two bulls got by Duke of Northumberland, and these two were 2d Duke of Oxford and 3d Duke of Cambridge. I brought 3d Duke of Cambridge to America, and this left but one son of Duke of Northumberland, (1940,) at Mr. Bates', and Mr. Bates did not in his lifetime part with that son. I designed to place before breeders the fact, that there is in this country but *one* bull, the get of Mr. Bates' *best* bull, and that if they wish the blood of Mr. Bates' they could no where else in America, than from Cambridge, get *Mr. Bates' blood, through the particular channel of a resembling and superior son* of Mr. Bates' best bull, Duke of Northumberland, (1940.)

The last sentence of the paragraph which I have quoted from my August article, is this:—"Breeders desiring the blood of Mr. Bates, can no where else in this country procure it with such high characteristics of style, quality, symmetry and substance." This sentence is the text; its disproval the object of Mr. Chapman's whole article. Never was an unfortunate sentence so misconstrued. In an article printed In Canada, it is made the basis on which to charge me with having asserted, "that from Mr. Sherwood, [through 3d Duke of Cambridge.] and from him alone, the Duchess *blood* can be procured" [in this country.] In letters addressed to others, and by the receivers shown to me, this sentence is made to mean, "that the 3d Duke of Cambridge possesses more of Mr. Bates' Dutchess blood than any other bull in America," and I am charged by its use with *so saying, and designing so to say.* Mr. Chapman makes it mean the *same* thing, *but does so* by way of *inference*, or *deduction*. His words are:—"No one will deny, that if any one animal from a herd possesses the power of imparting to his produce 'higher characteristics of style, quality, symmetry and substance,' than any other animal from the same herd, he must possess more of the *choice* blood of that particular herd. To question this, is at once doubting the efficacy of blood animals." That is, my position, if it be *true*, *must* be true, because 3d Duke of Cambridge has more of Mr. Bates' *choice* blood than any other bull in America. This is the meaning which, by deduction Mr. Chapman places on my words. Having done this, he proceeds to prove, by quoting Mr. Bates' opinions, in his own words, from public printed letters, that the *choice* blood of his herd, in Mr. Bates' opinion, is the Duchess blood. No one ever doubted that this was his opinion, who either knew Mr. Bates or had read his printed or private letters. I know such was his opinion. Mr. Chapman then gives from the 4th vol. of the Herd Book the pedigrees of 3d Duke of Cambridge, and Mr. Vail's Duke of Wellington, and by these pedigrees shows that Cambridge has by his sire *one* cross of Duchess blood, and that Wellington has *two* by his sire and the sire of his dam. The precise quantity which Mr. Chapman gives to each is ¼, i. e. 2-8, of Duchess blood, to Cambridge, and 3-8 to Wellington; and therefore he concludes, that Wellington must be a better bull than Cambridge. Logical conclusion! Now all this shows a total want of knowledge of breeding and of pedigrees in general; and in in special of the particular pedigrees which Mr. C. gives of the animals under his consideration. But to explain this as *to the pedigrees*, would require *too much space now*, and I pass it.

If Mr. Chapman be correct, then it would be true that a bull got by one of Mr. Bates' Dutchess bulls, dam by a Dutchess bull, grand-dam, *a poor roadside tack*, would be a better getter—would impart more 'high characteristics of style, quality, symmetry and substance'—than a bull got by a Duchess bull, out of a pure, full bred, stylish, shorthorn cow, of another approved tribe. Such an absurdity no one, I think, would maintain, save Mr. C. and *those* who helped him to produce his article.

On Mr. Chapman's rule, if sires have each the same amount of Duchess blood, they would possess and impart equal "style, quality, symmetry and substance." Yet no two full brothers were ever equally good animals and equally good getters. Duke of Northumberland, [1940,] and 2d Duke of Northumberland, [3646.] were full brothers. The first was superior as an individual, and very superior as a getter. The last was far inferior to his brother as an individual; far inferior as a getter. The 3d and 4th Dukes of Northumberland were full brothers and *twins*. The 3d Duke Mr. Bates never used; he was far inferior, both as an individual and as a getter, to the 4th Duke. The 3d and 4th Dukes had *more Duchess* blood than their half-brother Duke of Northumberland, (1940,) and were far, veryfar, inferior to the Duke of Northumberland, as individuals and as getters. Mr. Vail's Duke of Wellington, (3654,) has more Duchess blood than his half brother Locomotive, (4242,) and yet Locomotive was a far better animal and better getter than Wellington. Mr. Harvey's bull, (6658,) son of Locomotive, a distinguished winner even in Great Britain, is vastly superior to any thing ever got by Wellington. Duke of Cleveland, (1937,) the sire of the dam of Mr. Vail's Duke of Wellington, (3654,) was a Duchess bull, and was so inferior, that Mr. Bates says of him, "this bull never exceeded in weight forty stones of fourteen pounds per stone, when above three years old;" that is, 560 pounds, dead weight; *not half* the proper weight of a *merely fair* animal of that age. (See the London New Farmer's Journal, Aug. 8, 1842.) Duke of Northumberland, (1940,) *at the same age*, weighed, live weight, 2520 lbs. Sink one-third live weight, and his dead weight would be 1680 pounds; just *three times* the weight of Duke of Cleveland. Could any thing be *more despicable* than the Duke of Cleveland, (1937)? *Yet*, he had MORE *Duchess blood* than Duke of Northumberland, (1940,) by one-half.

The second best bull, as an animal, ever bred by Mr. Bates, *in his opinion*, was the first Duke of Cambridge, (3688,) a full brother of 3d Duke of Cambridge, and winner of the head prize in his class at the show of the Royal Agricultural Society of England, in 1840—an animal for which he was offered more money than for any other, except Duke of Northumberland, (1940.) And yet 1st Duke of Cambridge had only one-fourth as much Duchess blood as Duke of Cleveland, (1937.) 1st Duke of Cambridge was refused to Earl Spencer by Mr. Bates, at a very large price, and when sold to go to Australia, Mr. Bates said of him, "He is too good a bull to remain in England, out of my own herd." And so he was exported at twenty-one months old. Mr. Bates' Duchess bull, Short-tail, (2621,) the sire of Mr. Vail's Duke of Wellington, had more Duchess blood than Belvedere, (1706,) for Belvedere had none; and yet Short-tail was an inferior animal, deficient in every point, except his brisket and his handling, and was at best only a moderate getter; while Belvedere, (1706,) was magnificent as an animal, and the best getter that Mr. Bates ever used, and was the sire of the best animals he ever bred Mr. Renick, the agent of the Ohio Cattle Company, who went to England to purchase for them, said of Belvedere, that "he was the best and finest bull he ever saw in England or America." The best cow which I saw in Mr. Bates' herd was a Duchess, and *was not* got by a Duchess bull; but was by Belvedere, (1506.) The poorest of the whole herd was a Duchess, and *was* got by a Duchess bull. Another Duchess cow, *got by a Duchess bull*, was a very superior cow. The two last were equal in Duchess blood; and yet, their produce were like themselves—from the superior one, superior, from the inferior one, inferior.

Oxford premium cow, the dam of Mr. Vail's imported Duke of Wellington, (3654.) was got by Duke of Cleveland, (1937.) Her half-sister, Oxford 2d, was got by Short-tail, (2621.) Short-tail and Duke of Cleveland had the *same precise amount of Duchess blood*, and of course Oxford premium cow and her half-sister Oxford, 2d, had also the *same precise amount* of Duchess blood. Yet Mr. Bates never kept on his place any thing out of Oxford premium cow, which he *could sell;* never used a bull *out of Oxford premium cow*, for any purpose, *even to get steers*. Yet he never sold an animal out of Oxford 2d. at all—and in a letter to Mr. Vail, printed in the American Agriculturist, he says he would not sell her produce, of which he then had four, for five hundred guineas [$2,500] each; nor, indeed, would he sell them at any price. The full brother and the sons of Oxford, 2d he used to his whole herd, except herself and her daughters. And Mr. Bates was right: for Oxford 2d, and all her produce, are vastly superior to Oxford premium cow and her produce.

Mr. Vail commissioned me, when in England, to select from Mr. Bates' herd a young bull. I could not get for him such a one as I approved, at a *suiting* price; and I did not, therefore, execute the commission. Mr. Bates offered me, for Mr. Vail, a bull calf, by 2d Beverly, (5963,)—(a good Duchess bull)—dam Oxford, 4th, by Duke of Northumberland, (1940.) *grand-dam, Oxford premium cow;* but a regard for Mr. Vail's interest made me refuse the offer, though the price *suited*. I saw the *calf's dam;* I saw Mr. Bates' *opinion*, as shown by *his practice*, and acting accordingly, refused the calf.

I have cited these peculiar examples, to show by animals having Duchess blood, the utter absurdity of Mr. Chapman's notions of breeding. I have compared animals to show his errors, and he set me the example. I have *confined* myself, in *my comparisons*, to the blood that he selects for *his* comparisons, and have, like Mr. C., quoted Mr. Bates' opinions, as printed, and his practical ones, as shown by his breeding.

Having refuted the positions of Mr. Chapman, shown him in error, and proved that my position may be true, and *not* in consequence of the reasons he assigns, let me state what my words so often quoted, *do* mean, and what they *only can* be *made* to mean, by *any* construction of the sentence. I mean, and *only* mean that 3d Duke of Cambridge will impart Mr. Bates' blood, in some degree, more or less; that in himself he is the bull having the most "style, quality, symmetry and substance," of all the bulls that have ever come to America *from Mr. Bates' herd;* that he will get produce with more "style, quality, symmetry, and substance," than any bull from Mr. Bates' herd in America. Now I mean *this*, and *nothing more;* and *not* that he *had* or would *impart more Duchess* blood.

Mr. Chapman does not pretend to deny my positions, when construed as I have here set them forth. *He makes another issue.* I admit that Mr. Vail's Wellington has more Duchess blood than Cambridge. I never thought he had not; never said he had not; and never wrote or spoke a sentence that would in any manner, directly or indirectly, indicate such a thing; and but from misconception or design, I never would have been charged, directly or by deduction, with the assertion, that "from Mr. Sherwood, and *from him alone*, the *Duchess blood* can be procured," nor with the assertion, direct or consequential, "that Cambridge has more Duchess blood than any bull of Mr. Bates' breeding in America."

Mr. Chapman institutes a comparison between Mr. Vail's animals and Cambridge, in point of *Duchess blood*, giving pedigrees. I could *investigate* these pedigree, and *will hereafter*. He wisely makes *no* comparison between those animals in their *physical* character. I could, but will not *now*, though I will hereafter. I will merely say, that excellence in the physical animal consists of "style, quality and substance," and excellence in blood consists in having good blood, *unmixed with bad blood;* and as like begets like, it is necessary that *animals should have their descent, not only from pure blood, but from animals who were characterised by physical excellence.* I know Mr. Bate's herd, and certainly am not to be instructed in the excellence of Mr. Bates' Duchess tribe, by those who have never seen a single animal of it. Mr. Chapman has stated matters to which I now make no allusion, but I beg to assure him that I will return to them hereafter, when it will be more proper to discuss them than now, and when I shall not be charged, as I have been, with views and purposes which I have never entertained. A. STEVENS.

May 1, 1850—1t.

Sir Charles.

THIS fine young horse, owned by Titcomb & Waldron, of Waterford, N. Y., will be kept this season by Philip R. Argotsinger, one mile from Johnstown, Fulton county, N. Y. He was got by Morse's Grey, dam a Messenger mare.

May 1, 1850—2t.

The Thorough-bred Imported Horse Leopard,

BRED by the Duke of Bedford, is pronounced by the best judges in Canada and the States, as being superior to any blood horse ever imported from England. This horse will stand for mares at J LAPHAM'S. For pedigree, &c., &c., see English Stud book, and the Racing Calendar for 1846—also, advertisement in *The Cultivator* for 1850.

Terms $7 service, $10 season, $15 insurance.

Peru, Clinton Co., May 1, 1850—2t. O. K. LAPHAM & CO.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,
Walpole, May 1—5t.* Agent for the Proprietors.

The Morgan Stallion

GIFFORD MORGAN, JR., will be four years old May 29, 1850. Was sired by Gifford Morgan, G. sire, Woodbury Morgan, G. G. sire, Justin Morgan. His dam was sired by Sherman Morgan, and he by Justin Morgan. The G. dam of Gifford Jr., was sired by Justin Morgan.

This combines in Gifford Morgan, Jr., *more* of the Morgan blood than is possessed by *any other Stallion* in this State. In color, size, form, and action he closely resembles his sire. He will be kept on my farm at Sh E. MARKS.

Fairmount, Onondaga Co., April 15, 1850.—1t.*

Morgan Horse General Gifford.

THIS justly celerated horse will stand the coming season at Lodi Village, Seneca County, N. Y. He was got by Old Gifford Morgan, out of a pure Morgan mare. In his size, color, form and action, he closely resembles his distinguished sire, and is one of the very best specimens of this invaluable race of horses.

Terms of insurance, $12.

Good pasture provided at the usual rates, and all necessary attention given to mares from a distance.

Accidents and escapes at the risk of the owners.

May 1, 1850—3t. CHARLES W. INGERSOLL.

Morse's Grey.

THIS celebrated horse will stand the ensuing season at the stable of James Rice, in Spiegletown, three miles north of the village of Lansingburgh He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned; has trotted his mile in two minutes and fifty seconds; is a square trotter, and combines first-rate trotting qualities, and great powers of endurance, with unsurpassed gentleness and docility. His colts are justly celebrated for speed, bottom and good temper, are eagerly sought after in the market, and command prices varying from $150 to $500.

The very high reputation of his stock as road horses, and the extraordinary prices they command, render him by far the most profitable horse to breed from of any in the country.

Gentlemen sending mares from a distance, may rest assured that they will have such attendance and keeping as the owners desire, and upon the most reasonable terms. The horse will be under the charge of his former owner, Mr. Calvin Morse.

Terms, $10. Insurance to be agreed upon.

Communications addressed I. T. GRANT, P. M., Junction, Renselaer county, will receive prompt attention.

May 1, 1850—2t.

The Well known Hunter and

STEEPLE CHASE HORSE, WAXY POPE.—This celebrated imported horse will stand for mares the ensuing season, at the stable of the subscriber, 2½ miles west of the village of Fonda. The season will close July 4th.

Terms—$10 the season. Insurance by agreement.

Pedigree.—Old Waxy, the sire of WAXY POPE, was by Sir F. Pool's Waxy; his dam Prunella, (also, the dam of Penelope, Parasol, Podargus, Pioneer, Pawn, Pope Goan, Picquet and Prudence, the best of their day at New-Market,) by Highflyer; great dam Promise by Juap, Julia by Blank; great dam by Partner—Sir F. Pool's Waxy was by Pot-8-o's, the best bred son of Eclipse, his dam Maria by King Herod, grand dam Jisette by Juap; Swordsman, the sire of the dam of Waxy Pope, was by the Duke of Grafton's Prize Fighter, his dam Czara by Eclipse—there can be no more fashionable or better combination of blood than this.

A colt of his get took the first premium on three-year-olds at the State Fair at Saratoga, and three of his stock took premiums at Syracuse.

All mares parted with before foaling time, will be held as season mares, and charged accordingly.

All accidents and escapes at the risk of the owners.

Fonda, May 1, 1850—1t.* JOHN J. BOSHART.

Morgan Horse Black-Hawk.

THIS well-known stallion will stand for the present season at the stable of the subscribers; terms, $20 the season. The superiority of this horse as a stock-getter, is becoming more and more highly estimated, as his progeny increase, and their powers as fast trotters and durable roadsters are demonstrated. For particulars, see large bills. D. & D. E. HILL.

Bridport, Vt., April 1.—3t.

The Imported Thorough-bred Horse

CONSTERNATION, will stand for mares the coming season, at the farm of the subscriber, near the city of Syracuse.

Terms.—Five dollars in advance, and five dollars additional if the mare is got in foal. Mares left with the subscriber during the season, or until he consents that they shall return, will be insured for $10. Pasture 3 shillings per week. No mare taken except at the risk of the owner. J. B. BURNET.

April 1, 1850.—2t.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season, at the stable of S. A. Gilbert, East Hamilton. Terms $10 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse. For figure and description, see *The Cultivator* for 1849, page 216.

MORGAN CHIEF, will be three years old on the 18th of June next. He is a very superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. See *The Cultivator* for 1849, page 67. He will be kept for a few mares only, at the stable of H. R. Ackley, East Hamilton. Terms $10 to insure. ACKLEY & GILBERT.

East Hamilton, Madison county, N Y., April 1, 1850.—2t.

The Morgan Horse

MAJOR GIFFORD, will stand the ensuing season on Mondays, Tuesdays and Wednesdays, at the stable of E. W. Sheldon, in Sennett. On Thursdays and Fridays, at the stable of S. B. Rowe, in Camillus, and on Saturdays, at the stable of John C. Munro, in Belisle.

Major Gifford is seven years old this spring, his color a beautiful chestnut—was sired by the Gifford Morgan, his dam a pure Morgan. Breeders of good horses are invited to call and see him.

Terms.—Ten dollars to insure Pasturage furnished. Accidents and escapes at risk of owners. WASON & CO.

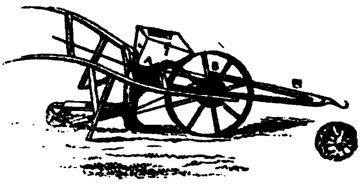
April 1, 1850.—3t.*

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices. Z. HOSMER,
April 1, 1850—6t. 110 Milk St., Boston.

Emery's Seed and Corn Planter,

For Hand or Horse Power.



THIS is acknowledged the best machine for the purpose, now in use. They have been in use four years, and the demand constantly increasing. The first premiums of the N.Y. State Ag. Society, the Massachusetts Charitable Association, the American Institute, and at every county society where it has been exhibited, have been awarded it.

It is equally well adapted for all small seeds in drills, or Corn, Beans, Peas, &c., in either hills or drills, any quantity and distance apart, &c., &c.

It is driven by a gear motion without bands, which insures a constant and uniform action. Price $14. For sale at the

Albany Agricultural Warehouse,
Nos. 369 & 371 Broadway.

April 1. 1850. H. L. EMERY.

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It is a most valuable work to all engaged in the culture of fruit trees.—*Utica Herald.*

It is a book of great value.—*Genesee Farmer.*

Among all the writers on fruits, we do not know of one who is Mr. Thomas' superior, if his equal, in condensing important matter. He gets right at the pith of the thing—he gives you that which you wish to know at once; stripped of all useless talk and twattle. No man has a keener eye for the best ways of doing things. Hence we always look into his writings with the assurance that we shall find something new, or some improvements on the old; and we are seldom disappointed. This book is no exception. It is *full*. There is no vacant space in it. It is like a fresh egg—all good, and packed to the shell full.—*Prairie Farmer.*

In the volume before us, we have the result of the author's experience and observations, continued with untiring perseverance for many years, in language at once concise and perspicuous.—*Albany Cult.*

For sale in New-York, by M. H. NEWMAN & CO., and C. M. SAXTON. Boston, B. B. MUSSEY & CO. Philadelphia, THOMAS, COWPERTHWAITE & CO.

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Auburn, April 1, 1850.—3t.

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The Poultry Book

And Fowl Breeders' Guide.

BEING a Treatise on the Breeding, Raising, and General Management of *DOMESTIC FOWLS*, with numerous original descriptions, and Portraits from Life. By JOHN C. BENNETT, M. D.

This work will be found to contain a greater amount of original and other information, both practical and useful, in regard to Fowl Breeding, than is contained in all other American works together. It will be illustrated with nearly FIFTY PORTRAITS of the most choice varieties of American and Foreign Fowls, some forty of which are from life, from drawings taken especially for this work, of the most important breeds, and several of them from Fowls very recently imported.

The publishers have spared no expense to bring out this work in a superior manner, both in regard to the engravings, the merits of the work, and the general execution of every part of the book. And it is believed that the work will be found to contain more Practical Information on *Breeding and Managing Domestic Fowls*, than any work issued in this country.

Price—in Muslin binding, 75 cts.; in Paper covers, 50 cts.

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New Patent Churn.

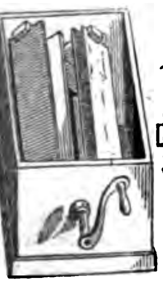

Fig. 1

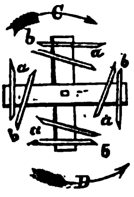

Fig. 2.

THIS churn is offered to the public with the fullest confidence in its superiority over any other crank churn in use. It has all the advantages of the crank churn without having any of their objections, the iron rod is dispensed with and the difficulty of gathering the butter is removed, as this arrangement of the floats is the best for gathering of any ever before offered. For further particulars, see Catalogue of Albany Agricultural Warehouse, or February No. of *Cultivator.*

The Silver Medal of the American Institute was awarded this churn, as the best of a large variety exhibited at their Fair in October last.

Also, Kendall's, Gault's and Dash Churns, constantly on hand at the Albany Agricultural Warehouse of

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And Overshot Threshing Machines and Separators,

NO Threshing Machinery ever invented has met with so rapid an introduction, or given so general satisfaction as this.

Four years since, and less than a dozen setts were made and sold within this State, where last season, upwards of three hundred setts were made and sold, beside many in Pennsylvania and the Western States.

Farmers desiring to avoid the trouble, inconvenience and expense attending the employment of the ordinary lever powers and threshers, are requested to examine our terms, descriptions. machines, &c. before purchasing, or again employing the large machines.

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Price of the "Warren" Two Horse Power and Thresher, only $80
do do Four do do do $110
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Bands, from $4.50 to $6.

These *latest Improved* Threshers and Powers give universal satisfaction, and are deemed far superior to any others known heretofore for any thing like their cost.

Cash Orders filled promptly.

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The undersigned also continues the business of the late E. Plant & J. Plant, (E. Plant & Co.,) of Purchasing for Orders, on Credit or for Cash, Dry Goods, Groceries, Hardware, &c., &c., for a commission of 2½ per cent. Produce, such as Sugar, Cotton, Tobacco, Peltries, &c., also received and sold on Commission. E. PLANT,

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STRAWBERRIES.—He is also agent for M. G. WARNER, for the sale of Strawberry Vines, which can be nicely packed in moss and sent over the Continent with safety, by express or otherwise The kinds below mentioned are among the best grown:

Burr's New Pine,
Rival Hudson,
Boston Pine,
Hovey's Seedling,
Large Early Scarlet.
Crimson Cone,
Black Prince,
Columbus,
Bishop's Orange.

The Burr's New Pine, is one of the best extant, and the Riva Hudson for a market fruit is No. 1, and for preserving is the *very best* Post paid applicants with funds enclosed, shall have prompt attention. He refers to Mr. Tucker, publisher of *The Cultivator.*

Printed Catalogues furnished free to applicants.

Price of Strawberry Vines, 50 cents per dozen. Address

JAMES H. WATTS

Rochester, April 1, 1850—2t.

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THE LODI MANUFACTURING CO., offer their new and improved Poudrette, for sale at their usual rates:—1 bbl. $2—3 bbls. $5, and $1.50 per bbl. for any quantity over 7 bbls., delivered free of expense on board of vessel in New York. At the Factory, where vessels drawing 8 feet water can come, it will be sold at 25 cents per bushel.

The expense per acre in manuring corn with Poudrette, will amount to about $4, calculating 25 cents per bbl. freight, and all the necessary labor included. On land previously manured, or on good sward land, one gill to the hill is sufficient—on poor ground, a good crop can be raised by one gill at planting, and one at the last hoeing. The cost of the labor alone in manuring corn in the hill with barn yard manure, will amount to more than the first cost of the Poudrette, with freight and all charges added; and the effects of Poudrette are quicker, more vigorous, and the corn reaches maturity earlier. A fair trial, *however small*, is respectfully solicited.

A pamphlet containing instructions for use, certificates from some of the first Agriculturists in the United States, and much valuable information will be sent *gratis*, to any one applying (*post paid* if by letter,) to "THE LODI MANUFACTURING COMPANY, 66 Dey street, New-York." Feb. 1—4ms.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND.'

NEW SERIES. ALBANY, JUNE, 1850. VOL. VII.—No. 6.

Improvement of the Soil.

Management of Sandy Lands.

SOME soils are too light, and others too heavy for profitable cultivation; and it was long ago held to be one of the cardinal principles in farming, to "make light land heavier and heavy land lighter."

The difficulties attending the successful cultivation of a sandy soil, arise chiefly from the want of coherence in its particles at the surface. From this cause it parts too easily with moisture, and with the gaseous portion of manures. Seeds placed in such soils may fail to germinate, or may be blown from their beds by winds, and the young plants are liable to be destroyed from the same cause. It is true, that when plants are once fairly started in sandy soil, they will often sustain themselves during drouth, better than in a soil of compact texture; because the mechanical relations of the soil in the former case, favor the ascent of moisture from below, and also allow the ready extension of roots to a great depth. Hence, as before indicated, the principal defect to be corrected in a sandy soil, is the looseness of its surface. To insure the germination of seeds, and to secure the young plants in their places, the soil must be made firm enough to resist the action of winds.

One of the best substances to apply to a sandy soil, is clay. Common clay, although composed chiefly of sand or silex, owes its adhesiveness to another substance it contains, called alumina; and hence, by the application of clay, we increase the adhesive principle. It is fortunate that most sandy tracts are underlaid with clay, at a greater or less depth, and in many instances it may be obtained and applied at a cost which would render it a profitable means of improvement. A coating of stiff clay, two or three inches thick, will convert almost any sandy soil into a good loam.

Prof. NORTON, in his address at Northampton, (1849,) observes:—"The want of alumina is not easily supplied, except in situations where clay can be procured. When it can be had, a load of it is frequently of more value than a load of manure, because it has not only an immediate effect, but also permanently improves the land. I know of one farmer near Hartford, who has carted clay by his return teams from that city, a distance of nearly nine miles. He assured me that it paid him well, and that a full load of stiff clay was worth, on his soil, two loads of manure. * * * This addition of clay is not alone useful as bringing new and valuable ingredients to the soil; perhaps its principal value consists in the power it gives the soil to retain moisture, and the manures which are applied to it. Thus it is the means of lasting improvement."

W. C. GOLDTHWAIT, Esq., in an address delivered at Springfield, Mass., last fall, observed:—"If land is too porous for want of clay, then supply what is wanting. Nature has fortunately so disposed the different kinds of earth, that no part of our territory is very remote from a deposite of the best clay. This costs nothing but the labor of removal, and though in most cases it will not act as a manure, yet it will render the effect of all manure more lasting, and render the soil more moist and more fit for future cultivation. * * * * I have tried some experiments of this kind, putting on about eighty cords to the acre, or say three inches in depth. * * * * Some may prefer a lighter dressing, but in farming as well as elsewhere, 'work once well done is twice done.' The effects of this course of treatment are exceedingly durable. Fields within my knowledge that were so treated a long time ago, have exhibited the beneficial effects after a lapse of twenty-five years. It should be remarked that much care is necessary to see that the clay is thoroughly mixed with the soil, or much of it will prove little better than blocks of stone. Exposure to the frost before plowing in, is one of the most efficient means of accomplishing this. Water expands in freezing; hence moist earth expands under the influence of frost, and becomes disintegrated. The use of the harrow, after the clay has frozen and dried, will be exceedingly efficient."

It is, no doubt, true that the beneficial action of clay on sandy soils, consists chiefly in its rendering them more tenacious; but some clays abound in the elements which produce fertility and supply the food of plants. They become, under the effects of drainage, and proper exposure to air and frost, very productive, especially in grass. This is strikingly the case with clays in the Connecticut Valley; and the stiff blue clay of Albany, when its tenacity is sufficiently overcome, forms a rich soil. Prof. EMMONS analysed this clay, and gives the following as its composition:

Water of absorption,	4.25
Organic matter,	1.17
Sulphate of lime,	1.60
Silicates,	69.02
Peroxide of iron and alumina,	17.24
Potash,	0.14
Carbonate of lime,	4.00
Magnesia,	3.00
	98.82

Prof. E. remarks—"It appears from numerous examinations which we have made, that clays contain more or less vegetable matter; they all blacken previous to ignition, and give off the odor of burning vegetables." The above analysis shows a fair proportion of lime in the states of carbonate and sulphate—as well as potash and magnesia. It shows in fact, a richer soil, except in vegetable matter, than most of those ordinarily called good. So that we not only increase the tenacity of sandy soil by adding such clay to it, but we, at the same time furnish elements which are directly useful in the growth and perfection of plants.

Wood-ashes are also an excellent manure for sandy soils. The potash dissolves a portion of the silex or flint, and the soil becomes more close in its texture. It is probable that all alkalies have a similar tendency. Hence urine and guano, which contain much ammonia, are particularly valuable for sands—they furnish the nitrogen of plants, and improve the physical character of the soil by making it more compact. Unfermented animal manures, mixed with straw or other vegetable matter, are not proper for sandy soils. They increase the defect which it is wished to remedy; that is, render the soil more open, which, according to the weather, causes the manure either to dry up and its strength to evaporate, or to be leached into the earth by rains. It is found best in all cases, so far as we have been acquainted with the improvement of this kind of soil, to apply animal manure in the form of well rotted compost. The objection which has been made, that this mode of managing manure causes a waste of its valuable properties, is not well founded. The absorbent substances, peat or litter, which should be mixed with the manure, will prevent the escape of the saline and gaseous portions—the ammonia will combine with the carbon, and remain sufficiently fixed till the manure is applied to crops. Manure in this state does not make the soil more dry, but rather attracts moisture to it, and consolidates its particles.

Several kinds of plants have a beneficial effect in binding sandy soil. On very light sands, some kinds of reeds, which will grow in such situations, are planted. Prof. Norton states that the *Arundo arenaria* is planted in the blowing sands of some parts of Holland and Belgium, which were formerly not only of no value, but were often driven by winds over cultivated fields, burying the crops and the fertile soil. He states that the roots of the plant run forty to fifty feet, sending up a shoot at every joint, and that he has walked over immense sand heaps, the surface of which, even to the bleak and exposed tops, was bound together by this plant.

Another plant which is much prized in Europe, in the improvement of sandy soils, is spurry. We do not know that this plant has been cultivated in America. Prof. Johnston, in his late lectures in this city, observes—"Of all food for cattle, spurry grows best on light, sandy soil. In Europe it is considered an exceedingly milk-producing food for the cow." It appears from the accounts we have of it, that it is not adapted to the very lightest and poorest soils, but will grow on those which will not bear ordinary cropping. It is cultivated largely on the sandy soils of Flanders, and according to Thaer, is the most nourishing, in proportion to its bulk, of all forage, and gives the best flavored milk and butter. It is said, also, to be particularly valuable for plowing under—producing a large crop. It is well worthy of a trial in this country.

The clovers, red and white, are among the best plants for a sandy soil, though they will not at first flourish well on the poorest sands. The red clover is enabled, from its long roots, to draw nourishment from a great depth in the soil, and in common with other plants of the same family, (*Leguminosæ*,) it has the faculty of drawing much of its support from the air. On these accounts, it is one of the best crops which can be grown as a fertilizer—that is, to be plowed into the soil. The carbon of the atmosphere, and the soluble mineral elements of the soil, are combined by the plant, which, by its decomposition furnishes a store of food for other crops. The white clover has a more binding effect on the soil than the red, on account of the peculiar character of its roots, one set of which start near the surface and extend in a lateral direction, fastening the soil in a thick net-work.

The manures of which we have spoken, especially ashes, greatly favor the growth of clover. Plaster, or gypsum, also, on many soils, produces a great growth of this plant. In improving sandy soils, the application of these substances in the outset, may in many cases be found expedient, in order to insure the first crops of clover.

The cultivation of sandy land has of late years received much attention in various parts of Europe. In Great Britain, as well as on the continent, much of the light soil which formerly produced scarcely any thing, and was deemed of little value, is now made to produce good crops of wheat. The feeding of sheep, in connection with the growth of clover and turneps, has always been deemed an important auxiliary in the improvement of this kind of soil. It is by this course, and the application of bones, that the light soils of Norfolk have been made to produce some of the best wheat crops in England. The same kind of soil in other districts, has likewise been greatly improved. Prof. Norton in speaking on this subject, observes:—"I have seen in the North of England, a fertile tract, covering what was a few years since a wide moor, bleak and desolate. In the centre of the flourishing farms, on a small hill, stands a stone pillar, some seventy feet in height, bearing on its base an inscription signifying that it was erected in former days to guide the traveler, bewildered on those dreary and trackless wastes. Many of the farms immediately surrounding that pillar, now produce thirty-two bushels of wheat to the acre."

The writer of an English prize essay on the culture of wheat, says the course which has been pursued with light soils, "established the fact that the clover root was a better bed for wheat than a fallow, the sheep's treading and droppings were a much better dressing than lime or barn-yard manure; and that blowing sand could, in eight or even four years, be adapted to the production of as many bushels of wheat to the acre as the naked, open, laborious fallow." He thinks the most suitable manure for wheat is bones, in connection with the droppings of sheep, left while feeding on the land; and observes—"In the bones, the phosphorus, which is so essential to the formation of the grain, is supplied, and the urine and dung of the sheep supply the other constituents necessary for perfecting the plant in straw and grain."

The improvement of light and sandy soils is beginning to attract attention in this country, and some examples of very successful cultivation of such soils might be named. In Rhode Island, and in some parts of Massachusetts and Connecticut, tracts of more or less extent are fairly reclaimed and brought under a profitable course of cropping.

Several trials have been made in cultivating the sandy plains near Albany, which deserve notice. Mr. J. McD. McIntyre is the owner of 900 acres of this land, eight miles from Albany, which came into his possession about ten years since at $10 an acre. It was then mostly covered with pitch pines, generally of small size—the whole growth not amounting to over twelve to fifteen cords of wood to the acre. In some places, the growth was only small bushes, and scattering shrub-oaks. Mr. McI. began farming on this land as an experiment, determined to proceed cautiously and on a comparatively small scale, till the profit or loss should indicate the proper course. The first results having been favorable, he has lately extended his operations; has now cleared in one body, 90 acres, to which he is making yearly additions; and intends to go on in this way till he has made a farm of 500 acres.

His course of procedure in regard to this land, has latterly been to plow it as soon as the wood and bushes are off, and plant potatoes. The yield has never been less than 100 bushels to the acre. Last year seven acres yielded in the aggregate 900 bushels. No manure is applied to this crop. The potatoes have been sold at from 50 to 62½ cents per bushel. The crop has generally more than paid all expenditures on the land, including clearing, cultivation, &c. The second season, the land is sown to oats and clover, to which is added, on the more moist portions, timothy and red-top. The first crop of oats usually averages 40 bushels per acre. The clover is either mowed or pastured with sheep—sometimes mowed the first year and pastured the second. It is then, usually, plowed again, 15 loads (30 bushels to the load,) of rotted manure applied to the acre, and planted to corn, potatoes or turneps. The best portions are taken for corn, and the average yield of this grain has been 40 to 45 bushels per acre, and in one instance, 63 bushels per acre were obtained. The yield of turneps has been from 400 to 550 bushels per acre. Last year, notwithstanding the prolonged drouth, seven acres gave 2,800 bushels. The land is then laid down with oats, clover and grass seeds. The second course of crops—that is, after the land has been once in clover—is usually better than the first. Ten acres of oats in one instance gave 610 bushels—or 61 bushels per acre. The weight per bushel last year, when oats were generally light, was 35 lbs. The crop of clover has been from one to two tons per acre—the best portions yielding, at the second course, fully two tons.

Sheep, (South Downs,) are the principal stock kept on the farm. There were last year 120 head of sheep, two oxen, two cows, and three horses. This stock did not consume all the hay, ten or twelve tons being carried off the farm. The turneps are fed, in quantities according to the condition and circumstances of the sheep—ewes with lamb and such as suckle, receiving the greatest allowance. Clover hay, passed through a cutting machine, is their dry food in winter.

This farm is generally rather level; but there are many knolls of greater or less height. The level part is not subject to become very dry, except at the surface; the knolls are lighter, and in some instances the soil is liable to be moved by winds. After they have once been set in clover and pastured with sheep, they remain stationary. Where clearings have latterly been made, the lightest knolls, where the soil would be most likely to be blown, have been left in trees, and the underbrush being removed, these little groves, covering the principal eminences, give the fields a picturesque and park-like appearance.

An experiment was tried in feeding off turneps with sheep, in the fall, on two acres of some of the lightest of this land. The sheep were put on in November, and when they had cleared off the crop, the ground was plowed. The next spring, it was sown to barley, and the yield was 42 bushels per acre. The only manure was the fifteen loads per acre for the turneps, and what was left by the sheep while feeding them off. The soil was much compacted by the tread of the sheep and enriched by the manure and urine—the benefit of the course being seen in all the succeeding crops. The soil became well swarded with clover and grasses, and still retains its tenacity.

Mr. McI. considers clover, turneps and sheep, the chief instruments of improvement for this land. It is certain that the land grows richer, produces larger crops, and supports more stock per acre under his system. The farm has derived little benefit from foreign manures. The application of manures purchased in the city, was once tried, but, with the cost of transportation, was found to be too expensive. Care has been taken, however, to save every thing which could be converted into manure on the farm.

One considerable advantage of this soil is, that when crops are fairly started, they are comparatively sure, whatever may be the season as to wetness or dryness. They are not likely to suffer seriously either from excess or deficiency of moisture. The large average product of Mr. McI.'s farm, is owing in a great degree to this fact. So constant has been the growth of herbage on this farm through the season, that even in our extreme drouths, the pastures have supported from four to six sheep per acre.

We might refer to other examples of the profitable cultivation of this kind of land—especially to some tracts devoted to the production of vegetables for market—but the length of this article renders it necessary to defer further accounts till another occasion.

Agricultural Discussions.

Wheat Culture.

The discussion in relation to the culture of wheat, which took place at Albany, at one of the weekly meetings held during the past winter, brought out some useful facts which we think are not generally known, and their insertion in our pages may interest and benefit our readers.

Mr. **Brewer**, of Tompkins county, said he had cultivated wheat for more than twenty years, and would give some of the results of his experience. A part of his farm, which in 1830 was an open common, has been wholly devoted to wheat and clover since that time—having produced thirteen crops of wheat and eight of clover. The soil is rather a gravelly loam. His farm is on one of the hills, towards the head of Cayuga Lake, which it is said were burned over by the Indians every year. He had made various experiments in plowing at different depths—from three inches to seven inches—and has always had the best crops where the furrows have been the shallowest. Usually plows but once for wheat; has sometimes plowed in May, but had no better crops than when he plowed in September, just before sowing. The yields he had obtained were from sixteen to twenty-six bushels per acre. On new land—stiff soils for instance—it might be necessary to plow more than once for a wheat crop, and in such cases it might be better to plow deep the first time.

Mr. B. stated that he had made some trials with various quantities of seed per acre, as 1¼, 1¾, 2 and 2½ bushels, and had usually got the best returns from the latter quantity; that is, 2½ bushels of seed had given from 2 to 3 bushels more yield per acre than 2 bushels of seed, and 6 bushels more than 1¼ bushels seed. He had not been plagued with rust but once in twenty years. Was seldom annoyed with the Hessian fly or with the wheat midge; but the wheat has often been much injured by these insects in vallies, when it was not noticed on the hills. Has commenced sowing wheat in drills; sowed a part of his crop in this way last fall; the drilled portion looked much the best at the setting in of winter. Saw two fields of wheat last year, adjoining each other, on one of which the seed was drilled in, and on the other sown broadcast; the drilled yielded much the best. Drilled wheat stands the winter best; the small ridges between the rows are constantly working down, and keep the roots of the wheat covered.

Mr. B. spoke of the Etrurian wheat, which had lately been introduced, and had so far done well—it weighed 64 pounds to the bushel.

Mr. Lawrence, of Yates county, differed from the preceding speaker in regard to the proper depth of plowing. The remarks in favor of shallow plowing, seemed strange to his ear. The farmers of Yates *improve* their land by deep plowing. The farm which he occupied had been rented for many years previously to its coming into his possession, and had been plowed about four inches deep, and produced 12 to 15 bushels of wheat per acre. He at once plowed it six to seven inches deep, and raised the first season 30 bushels of wheat to the acre. It was the general expression, in his county, that deep tillage was the best for all crops.

He had tried subsoiling; first plowed with a common plow, seven inches, then run the subsoil plow the same depth—cross plowed before sowing wheat—has invariably had the best crops where he has subsoiled—has sometimes subsoiled a portion of a field and left the remainder plowed only in the ordinary way, and the yield is always in favor of the subsoiled part. His is a strong lime-stone soil, and he intends to subsoil his whole farm, being satisfied that it will pay. He makes great use of clover as a fertilizer, and uses plaster to benefit the clover. Never could perceive that plaster benefitted the wheat much, but it greatly increases the growth of clover. He attributes the improvement of the soil by clover mostly to the roots; they penetrate the earth to the depth of two to two and a-half feet, and raise the soluble substances on which the plant feeds, to the surface, where, by decomposition, they supply food to the wheat crop.

Mr. L. said wheat was formerly raised in Yates county chiefly on fallows; but latterly, the more common course is to take first corn, then barley, then wheat—the corn generally manured—but it must be remembered that this cannot be done on a poor soil. He had tried wheat after various kinds of grain, but it does best after barley. The system of drilling wheat is beginning to be practiced in Yates county, and Mr. L. concurred with what had been before said in regard to the advantages of this mode of sowing. Palmer's is the kind of drill most in use in his neighborhood, and it gives good satisfaction. The quantity of seed sown can be regulated to a quart to the acre. It covers the seed one and a-half to two inches deep. The rows are nine inches apart. The cost of the machine is $55. The best varieties of wheat in Yates county, are the Hutchinson, Soule's and Flint. Many preferred the Hutchinson on account of its earliness and freedom from rust. It would ripen two weeks earlier than the red chaff. Mr. L. thought they raised as good crops of wheat in Yates as in any county in the State. He had himself raised forty-four bushels per acre on sixteen acres, in 1846.

Lieut. Gov. Patterson said his experience was in favor of deep plowing. The wheat lands in the Genesee valley, when new, produced about fifteen bushels of wheat per acre. They were plowed shallow—the farmers generally had not then sufficient strength of team to plow deep; now they plow much deeper than formerly, and obtain from twenty five to thirty bushels per acre. In Livingston county, thirty-five bushels per acre were obtained on some farms. Some farmers there, now plow ten inches deep. Deep tillage has many advantages; an important one is, that it enables crops to stand drouth. As to varieties of wheat, the old red chaff bald had done best with him, and he had tried many kinds. The Soule's variety had done better than the flint; but two crops of the red chaff are better than three of the flint. The blue-stem is being introduced, and meets with favor. The proper time to sow wheat in the Genesee valley, is from the 15th to 25th of September. If sown earlier than this, it is very liable to be injured by the Hessian fly. As to the quantity of seed per acre, he thought a bushel and a-half, if thrashed with a flail or trodden out by horses, was about right; if the seed was thrashed with a machine, two bushels per acre were necessary. The difference was owing to the wheat being broken in passing through a machine, so that many of the grains would not germinate. In regard to summer fallowing, he had had better success with wheat on ground so prepared than in any other way, and thought he could raise wheat in that way cheaper than he could raise corn or oats. As a crop to precede wheat, he considers peas preferable to any kind of grain, or any crop, except flax. The cheapest manure for wheat is clover, though he would use all the manure from the barn-yard; considers a good crop of clover equal to twenty loads of ordinary yard manure per acre. His practice is to sow six to eight pounds of clover seed per acre—seed costs about ten cents per pound—in spring sows 100 pounds of plaster per acre—pastures the clover till latter part of May and plows it under in June—could never see that plaster benefitted the the wheat, but it makes the clover, and the clover makes the wheat. He is much in favor of the system of drilling wheat. Wheat put in by this method is less likely to be winter killed. The roots of grain that is sown broadcast, are often injured by the earth being blown off from them; by the drill system, this is prevented—the earth which forms the ridges between the rows being blown over the wheat, keeping the roots covered. His wheat crops have sometimes been forty bushels per acre—has raised 30 bushels per acre on sixty acres.

Mr. Cowles, of Onondaga county, said there was great variety of soil in that county—that on which oak and chestnut constituted the chief timber growth, was best for wheat; but 30 years ago this kind of land was generally thought good for nothing. When it was first tilled, it was plowed about four inches deep, and it did not produce very well; now it is plowed from seven to ten inches deep, and the crops are good and the land is growing better. On this kind of land, plaster benefits all crops; but on some other soils plaster has no apparent effect. On the chestnut and oak lands, the best crops of wheat are obtained by sowing about the first of September. He had noticed the effect of different crops on wheat. A field was sown as follows:—one-third with peas, one-third with barley, one-third with oats; the next crop was wheat; it was best after the peas, next best after barley, and poorest after oats. So far as his observation had gone, wheat was generally poorer after oats than after any other crop. On his land wheat was generally best after a summer fallow. As to varieties, the old fashioned flint was best—the Canada flint next best. He related an experiment: a neighbor of his took some winter wheat—a white variety—put it into tubs, wet it, and left it to freeze—it being in the winter season.

It remained frozen till spring, when it was sown; the produce was a *red spring* wheat, which had been continued in his neighborhood until this day. This experiment convinced him that all wheat was of one species, and that varieties might be originated by causes unusually affecting the germ or the plant.

Lieut. Gov. **Patterson** had no reason to doubt the result of the experiment just cited; it brought to his mind the long-contested point of the transmutation of wheat into chess. He had known chess produced under circumstances which seemed to favor that hypothesis. He knew a piece of new land, just cleared from the forest, at a considerable distance from any other cleared land, sown to wheat, and on a swale, in the middle of the piece, there was scarcely anything grown but chess.

Mr. **Lawrence** said he could not believe that a grain of wheat ever produced chess. All the cases of supposed transmutation that he had ever heard of, could be explained without resorting to such an unnatural idea. It was sometimes said that *clean* wheat was sown, and it produced chess. He had often examined wheat that was called clean, and found chess enough among it to produce all that was grown among the wheat. In wet places the wheat would die out, but the chess would grow all the better, and people were astonished at the quantity.

Mr. ———, (whose name we did not learn,) made some remarks in regard to smut. He had sown a piece of ground with seed wheat that was a little smutty, but scarcely enough to be noticed—did not apply lime or anything to prevent smut, and the crop was two-thirds smut. His son sowed some of the same seed, prepared by soaking in brine, and then limed, and the crop had hardly any smut in it. He inquired whether this accorded with general experience. Several gentlemen replied that they had never been troubled with smut when the seed was treated with lime, alkali, or vitriol.

Neglected Manures—No. 6.

Blood, Flesh, Animal Charcoal, Glue Refuse, Coal Ashes, Adulterated Manures.

Analytical Laboratory, Yale College, }
New-Haven, Conn., May, 1850. }

Eds. Cultivator—In my last letter, I called attention to several powerful manures, remarkable for the large quantity of nitrogen which they contained; there are quite a number more of the same class that are valuable, and I will select two or three of them.

One of the most efficacious and energetic manures known, is to be found in flesh, of every description. Under this head, I include the blood, as that has nearly the same composition as the flesh. They both contain some 15 per cent. of nitrogen; owing to this, and to the quantity of water which enters into their composition, every form of flesh and blood is strongly disposed to speedy putrefaction. This is seen in the flesh of animals, and of fishes after death, especially whenever the temperature of the air is a little elevated.

This facility of decay, although it has its disadvantages, causes them to produce an immediate effect when applied as manures. In France, blood is dried and sold in the form of cakes; these if kept dry, will remain unchanged for a long period. The same thing may be accomplished with flesh, but only at the expense of much time and trouble. There are few farmers but have seen the remarkable effect produced by some small dead animal, when buried under a vine or young tree, or under a portion of some growing crop. It pushes the plant rapidly forward, makes its foliage luxuriant, and of a dark green, healthy color. On the field of Waterloo, the huge graves which were indiscriminately filled up with men and horses, were distinctly marked out for years, by the superior luxuriance, and the vivid green color of the grain which grew over them.

Facts tending to a similar conclusion, as to the great value of these manures, abound in almost every section of the country, and yet for the most part they are entirely neglected. If a horse, or cow, or sheep dies, it is drawn out to some lonely place, where the crows and dogs soon make away with its flesh. This is not, I am aware, true of all places; I know of some regions where they are too wise to throw away such rich manures, where animal flesh, fish refuse, &c., is eagerly sought after; these are not, however, the majority.

I have been told of a case near the capital city of one of our largest states, where the offal from the slaughter houses, was allowed to accumulate year after year, in a hollow, down the bank of which it was thrown. The farmers would not pay for it even so much as six cents per load, and many of them would not take it away for the mere expense of cartage. This mass of material would have brought from $5 to $15 per ton, in England, and would have been eagerly sought for at that price.

When manures of this class cannot be used immediately, they should be made into compost, by mixing with large quantities of some absorbent material; if this mixture is sprinkled over with gypsum occasionally, nearly all escape of valuable substances may be prevented.

Another valuable manure, which owes much of its efficacy to blood, is to be found in the refuse animal charcoal, or bone black, of the sugar refiners. Some refiners now employ gelatinous alumina largely for purifying sugar, in place of blood, but where the latter is used, the worth of the manure is greatly increased. The use of alumina deteriorates it. Various valuable substances besides blood are present, as the impurities of the sugar, and usually some gypsum also; the animal charcoal itself is simply burned bones crushed to a powder. We have then in this refuse, an abundance of nitrogen in the blood, and of phosphates in the bones, the two most important essentials for a good manure. It is worth $5 to $10 per ton, in England and France; in this country, it has been almost given away, so far as my experience of its use has extended.

In the yards of glue factories, a refuse accumulates, which is in England called *scutch*. It consists of variable proportions of animal matter, hair, &c., mixed with lime, this last partly as phosphate. This substance has an exceedingly offensive smell, and is largely used by the farmers. It varies a good deal in its composition. Prof. Way, chemist to the Royal Ag. Society, has lately examined several samples, and considers them worth from $5 to $6 per ton. This manure then, would not bear a long transportation, but would be valuable to farmers near the glue works.

The English and Scotch farmers, have in their zeal for refuse manures, gone in many cases to the opposite extreme; and have paid large sums for various substances because they were refuse, and seemed cheap, which turned out to be almost valueless. Prof. Way gives some instances of this kind; one of these is so remarkable that I will insert it here. It was an artificial manure or mixture, sold as remarkably adapted to the turnep crop, and greatly puffed as made from cheap refuse substances of a valuable nature. The price was nearly $40 per ton, and large quantities were disposed of. Great disappointment was experienced in its effects, and a sample was analysed by Prof. Way; his result was as follows:

Water,	4.93
Sand and Clay,	74.16
Organic matter,	4.43
Phosphate of Lime,	trace.
Oxide of Iron and Alumina,	13.88
Carbonic acid,	trace.
Sulphuric acid,	none.
Lime,	1.05
Common salt,	1.62
	100.07

This, as shown by the analysis, was nothing more than a red soil, crumbled down to a tolerably fine powder, and was a most unparalelled piece of imposition. Most of the dealers, when making up such manures, add something to them which has a most powerful and offensive smell; this causes them to take with the farmers at once. They have learned that guano, animal manures, &c., have such smells, and hence conclude that all highly scented substances are fertilizers. If the dealer can succeed in imparting a most intolerable odor to his worthless mixture, he is pretty sure to find a ready sale at good prices. A man must not then, in this business, *follow his nose* too implicitly, but must call in the aid of other senses also. If a high price is to be given for a manure, it should be one of acknowledged character and value.

As concentrated fertilizers come into more general demand in this country, and as their importance becomes fully appreciated, dealers will doubtless be found, who will attempt impositions of a similar character. I perceive already, advertisements of various artificial manures; these may so far as I can say, be of good quality, but I would still urge the necessity of caution, in all cases where the dealer is not known to be honorable, or where he cannot give some sufficient guarantee as to the quality of the article that he sells.

In the preceding letters, I have indicated numerous natural manures heretofore in a great degree disregarded; some of which may, in almost every locality, be obtained without much difficulty or expense. Many of these are entirely neglected as refuse, and others can be bought for a mere trifle. I would then recommend that the farmer, before paying largely for such manures as guano, and others of the same class, look carefully about him and see if there are not to be had some such substances as I have named, that may be made available by a little exertion and perseverance, in collecting and preserving them.

There are few neighborhoods where a man who is watchful, cannot in the course of a year, collect a considerable quantity of these otherwise neglected substances. When all of the farmers come to understand their true value, they will no longer permit them to leave their own land, and the supplies will of course become limited. Before their importance is generally known, those who are in favorable localities for the collection of such materials, have an opportunity of enriching their soils with comparatively a very small outlay.

I have hitherto mentioned, with the exception of bones, manures whose worth depended for the most part, on their organic portion, and on the nitrogen which this contained. There is another important class, consisting of manures wholly or chiefly inorganic, some notice of which seems necessary.

The value of wood ashes, seems now to be quite generally recognised; among those who can ever pretend to be good farmers, they are no longer neglected. Coal ashes, however, are generally thrown away, and in the large cities immense quantities are thus wasted. We have as yet, no detailed series of analyses, from which to calculate the actual value of these ashes. Some partial investigations made in my own laboratory, show that they contain several pounds in 100, of soluble substances. These are of the same class as those which occur in wood ashes. In many places the soap makers will give a small price for these ashes, thus showing that they are able to extract some alkaline matter from them. All this, is of course valuable for the soil. I am intending to pursue the investigation of this subject on the first opportunity, and hope to lay before the community some important results.

In the mean time, I have no hesitation in saying, that these ashes will pay well for their preservation; and that it would be an object for farmers in the vicinity of cities, to send in their teams for a portion of the vast quantities which are annually thrown away.

In the course of a conversation a few days since, with a very intelligent gentleman, who has a farm near Hartford, Ct., he informed me, that according to his experience, coal ashes were worth upon his land, from one-third to one-half as much as wood ashes. This was reliable practical evidence, and was in accordance with the views that I had previously entertained. JOHN P. NORTON.

Composition of Hog and Cow Manures.

BY J. H. SALISBURY, ALBANY.

Per centage of water, dry matter and ash, in

	Hog Manure.	*Cow Manure.*
Per centage of water,	82.30	77.40
do dry matter,	17.70	22.60
do ash,	3.64	3.11
do ash, calculated on the dry matter,	20.565	13.761

About four-fifths of the weight of these manures is water. The hog manure contains about five per cent. more water than the cow manure. It will be noticed too, that these manures are decidedly rich in inorganic matter. A little over one-fifth of the dry matter of the hog manure is ash, while the ash of the cow manure is less than one-seventh of its dry matter.

Composition of the Ash.

	Hog Manure.	*Cow Manure.*
Silicic acid,	45.525	51.975
Carbonic acid,	0.446	0.145
Sulphuric acid,	4.190	60.065
Phosphoric acid and per-oxide of Iron,	29.295	13.160
Lime,	2.870	1.690
Magnesia,	1.160	1.730
Potash,	3.320	4.150
Soda,	10.740	19 146
Chlorine,	0.305	0.370
Organic Acids,	2.065	1.896
	99.366	99.555

Proximate Organic Analysis.

	Hog Manure.		*Cow Manure.*	
	With the water.	*Without the water.*	*With the water.*	*Without the water.*
Chlorophyl, fatty matter, and wax,	0.51	2.252	0.25	1.016
Fibre and other bodies, insoluble in water and alcohol,	15.86	70.022	15.86	64.445
Albumen,	3.21	14.172	5.46	22.187
Casein,	0.26	1.148	0.18	0.731
Dextrine or gum,	1.88	8.300	1.88	7.639
Sugar and Extract,	0.93	4.106	0.98	3.982
	22.65	100.000	24.61	100.000
Water and volatile organic products,	77.63		74.95	
	100.28		99.56	
Per centage of ash in fibre,		16.076		13.871

The percentage of albumen in the dry matter of these manures is evidently greater than the per centage of albumen in the dry food eaten. This corresponds with experiments of Boussingault; that though the weight of the dry manure voided by an animal is always considerably less than the dry food eaten, yet it is sensibly richer in organic matter and nitrogenized bodies. The reason of this, is that relatively a larger proportion of carbon is given off through the lungs in respiration, than there is of nitrogen compounds and inorganic matter assimilated by the system.

Comparative view of the percentage quantity of the inorganic and organic bodies in equal weights of the hog and cow manures.

(Calculated from the foregoing results.)

	HOG MANURE.		COW MANURE.	
	1000 lbs.	one ton.	1000 lbs.	one ton.
	lbs.	lbs.	lbs.	lbs.
Silicic acid,	16.571	33.142	15.947	31.894
Carbonic acid,	0.162	0 324	0.045	0.090
Sulphuric acid,	1.500	3.000	1.886	3.772
Phosphoric acid and per oxide of iron,	10.663	21.326	4.080	8.160
Lime,	1.045	2.090	0.526	1.052
Magnesia,	0.422	0.844	0.538	1.076
Potash,	1.208	2.416	1.301	2.602
Soda,	3.909	7.818	5.954	11.908
Chlorine,	0 111	0.222	0.015	0.030
Organic acids,	0.759	1.518	0.568	1.136
Chlorophyl, fatty matter and wax,	4.218	8.436	1.980	3.960
Fibre,	131.151	262.302	125.503	251.006
Dextrine or gum,	15.546	31.092	14.888	29.776
Sugar and extract,	7.691	15.382	7.761	15.522
Albumen,	26.434	52.868	42.233	84.466
Casein,	2.150	4.300	1.425	2.850
Water and volatile organic products,	776.300	1552.600	774.950	1549.900
	999 840	1999.680	999.600	1999.200

There is a marked difference in the composition of these two manures; and this difference affords, I think one reason why their effect on the grain crops generally is so different. In organic products they do not materially differ, except in albumen, and in this the cow manure is the richest by about 31 lbs. to the ton. This large per centage of albumen in the cow manure (if this body were as essential as phosphoric acid) would argue that this manure is the best; but experience teaches otherwise. Every farmer knows that generally, in the grain crops, a given weight of good hog manure is worth double its weight of cow manure. The cow manure is the richest in soda by about 4 lbs. to the ton. But the essential difference in the value of these manures, appears from the foregoing analyses to reside mainly in the phosphoric acid. Of this the hog manure contains about 21 lbs. in the ton, while the cow manure has but 8 lbs. in the same quantity. Thus it will be seen that in phosphoric acid, hog manure is the richest by about 13 lbs. to the ton of the manure before it is deprived of water. In a ton of dry hog manure, there is 95.40 lbs. of phosphoric acid, and in the same weight of dry cow manure 36.32 lbs.; giving a quantity in the former greater than that in the latter by 59.08 lbs. to the ton.

In the cultivation however, of potatoes and the root crops generally, cow manure is considered in the main to be equally as good, if not better than hog manure. The foregoing results would incline to the same conclusion, from the fact, that the composition of the former manure corresponds more nearly with the food required by the last mentioned crops; while the composition of the latter is more analogous to the food required by the grains.

It may be well to state, since the dung of the same animal varies in composition with the food eaten, that the cows which afforded manure from which the foregoing results were obtained, were fed principally upon hay; and the hogs, during the summer, upon grass and potatoes, and during the fall and winter upon potatoes, with some pumpkins, apples and soft corn. The manure from the hog sty was of a poorer quality comparatively than that from the cow stable, on account of a little admixture of chaff and straw which had been thrown in for nesting.

Foreign Correspondence.

On the Silk Culture of Austria.

Stuttgardt, Feb. 21, 1860.

In the 14th century the enterprising Venetians introduced the culture of silk into their country, from whence it gradually spread over all those regions of Italy favorable to the silk worm.

In the mountainous regions of Lombardy, where the ever refreshing air of the Alps mingles with the hot rays of the Italian sun, producing a balmy atmosphere in which the mulberry tree bears the most tender leaf, and where the worm thrives and spins the most perfect thread, silk culture has been brought to a great degree of perfection, and the silk of Lombardy is celebrated all over Europe.

There is no branch of industry which yields such rich results from so small an outlay for land and labor as silk growing; agriculture prospers in connection with it, because the mulberry tree takes but little nutriment from the soil, feeds mostly on the balmy air, and leaves the full strength of the soil to the perfection of grain. It does not interfere with the principal operations of farming; after the ground has been prepared for the spring crop, the worm then begins to burst forth from its winter cell, and in 40 days passes through all the stages of metamorphose, and the glossy cocoons furnish the industrious silk grower with the means to secure his other crops, and all necessary domestic comforts.

The reeling and twisting operations give employment to women and children during the greater part of the year, and enable this densely inhabited country to support a large population; and, although England brings great quantities of silk from the East Indies, and the silk crop of France and other countries is steadily on the increase, nevertheless, the demand for Italian silk has been constantly advancing, with a fair prospect of continuing to do so.

According to the last official returns, the yearly production of cocoons in Austria is estimated at—

In Lombardy,	248,000	Cwt.
In the Venetian provinces,	190,000	"
In Tyrol,	30,000	"
In Hungary,	5,000	"
In the Military colonies,	4,000	"
In Dalmatia, Bohemia, &c. &c.,	10,000	"
	488,000	Cwt.

Or, in a round sum, 500,000 cwt. of cocoons.

According to the official statistics, there are now in Lombardy 842,000 Jochs* of land planted with mulberries; a Joch produces on an average 29¼ lbs. of cocoons; in Brianza it amounts to nearly 50 lbs. of cocoons per Joch.

The mulberry orchards increase in Lombardy with every year; districts which served as pastures are now planted with this valuable tree, giving to the whole country the aspect of a garden.

In the highly cultivated provinces where land is scarce, the less valuable grape vine must make room for the mulberry tree. According to the estimate made in the year 1835, the number of mulberry trees in Lombardy amounted to 16,573,123, without bringing into calculation the mulberry hedges, from which great quantities of leaves are gathered.

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* An Austrian Joch is 1.422 acre.

A middle-aged tree yields per year, on an average 70 to 110 lbs. of leaves, and 20 lbs. of fresh leaves are calculated for 1 lb. of cocoons.

The yearly crop of cocoons in Lombardy amounts to 248,000 cwt., which would require, according to the above estimate, 4,860,000 cwt. of mulberry leaves. The price of leaves varies; but 2 fl. 20 kreutzers per cwt.* is considered a low price; according to this estimate, the crop of mulberry leaves amounts to 11,340,000 florins; from this sum 2,025,000 florins must be deducted for gathering the leaves, &c., and 9,315,000 for ground rent.

One ounce of worm eggs, or 1⅓ loth, yields 67 Vienna lbs. of cocoons, which require 1,333 Vienna lbs. of leaves.

Silk culture, as well as farming is carried on by persons who rent the land or trees for half the silk crop; the land owners furnishing one-half of the worm eggs, and the colono or renter, the other half of the seeds, and all the labor and care the worms require.

Raw Silk.—The crysalides within the cocoons, are killed by exposing them to the hot air of heated ovens or to steam; the cocoons are then thrown into boilers or kettles filled with warm water; the threads of 3, 4, 5 or more cocoons are united to form one thread; the product is called *raw silk*. The kettles are mostly heated in the common way, but of late, and especially in Lombardy, they are now heated by means of steam; and for a large reeling establishment, the steam is generated in one or two boilers, and is conducted to the kettles by means of pipes, whereby not only a great deal of fuel is economized, but the silk produced in that way is considered better and of a handsomer appearance, which is ascribed to the uniform temperature which can be kept up with steam. To each kettle two women are required, one to attend to the reeling (malstra) and the other to turn the reel.

Upon this operation depends the evenness and beauty of the thread. The silk growers therefore pay great attention to it, and the superior quality of Lombardy silk is to be ascribed to the perfect management of this simple operation.

The number of kettles in use in Lombardy during the above mentioned operation amounts to about 40,000 which are employed in about 3,500 Filandas, to which 90,000 persons are required.

The operation of reeling lasts from 40 to 50 days; in this space of time the cocoons are all converted into raw silk.

The wages for an overseer, are from 35 to 50 kreutzers; for a maestra, 22 to 30 kreutzers; for the hands to turn the reel, from 8 to 13 kreutzers per day exclusive of a meal (minestra.)

They must keep close at work from early in the morning till late in the evening, with only one hour's recess.

The quantity of wood required for heating the kettles in the ordinary way, averages 50 to 60 lbs. per day; when steam is used, half the amount of fuel is sufficient.

To each kettle belongs a reel, and it is estimated that a reel can work up 800 lbs. of cocoons in 50 days.

11⅝ lbs. of cocoons yield 1 lb. of raw silk; in Brianza it requires less cocoons for 1 lb. of silk, but on an average 1 lb. of raw silk requires 12 lbs. of cocoons.

In the operation of reeling, arises an offal consisting of a coarse kind of thread which covers the cocoon. This layer must be carefully removed. The husk which covers the crysalides is used for bed covers, or spun for common silk stuffs. The offal or strata amounts to 10 per cent. of the weight of raw silk, and sells for 12 to 24 kreutzers per lb. The price of raw silk averages 12 florins 30 kreutzers per pound.

Filatores or Twist Mills.—At the Filatores the raw silk is twisted for the warft (organzin) and weft (trama.) It is done by means of large machines, set in motion by water and horse power. Twisting is carried on the whole year round; this operation makes a loss on silk from the breakage of the threads, knots, &c., which amounts to from 3 to 6 per cent.

In Lombardy, the number of Filatores amounts to about 500, which employ 3,750 men, 7,040 women and 2,015 children. To twist a pound of silk, costs from 1 fl. 27 to 1 fl. 34 krs.; when to this, the cost of reeling is added with 44 kreutzers per lb., the expense of working up the cocoons into twist, costs about 2fl. 15 kreutzers per pound.

The total value of silk of the different countries of Austria, is estimated at 50,500,000 florins, which is to be divided:—

For the Cocoons,	42,700,000	florins.
Reeling or producing Raw Silk,	2,900,000	"
Twist,	4,400,000	"
Offal,	500,000	"

The raw material has a value of about 43,000,000 fl., which amount is increased to about one sixth of its value, or 7½ millions through the operation of reeling and twisting.

Although silk culture is carried on in the same manner all over Lombardy, the Venetian kingdom, and the southern part of Tyrol, yet each province produces a peculiar kind of silk, each bearing a different character. The best silk is produced in *Brianza;* it is superior to any in Italy, or in the whole world; the next best is that of Varese, in the province of Como, and Bergama.

Silk culture has especially been improved in Brianza, through the influence and labors of the silk-growers' societies of Mayland and Como. Through various improvements and good management, silk has there obtained greater lustre, softness and suppleness, which was formerly only possessed by the silk of Turin.

The finest and most glossy stuffs are manufactured from the silk of Brianza, and the industrious and highly intelligent inhabitants of that district are considered masters in the treatment of the silk worm, as well as in the operation of reeling and twisting.

Bergamos silk has an old established reputation, and is much sought after for the English market.

Brescia silk comes next, then Cremona, and that of a part of Mantua, where silk culture has been of late much increased and improved.

Lodi and Pavia are, from their low situations and practice of irrigating the meadows and fields, less favorable to the culture of silk. The worm there spins a coarse and less uniform thread, which is to be ascribed to the dampness of the atmosphere, in which the worm works more sluggishly than in provinces of a greater altitude, where the air is more pure and dry.

Verona and its vicinity, with several districts of Mantua, produce the most celebrated sewing silk. It is not long since the operation of reeling was left in the hands of inexperienced reelers, who produced a dirty, unequal and spotted thread; but of late, more attention has been paid to the operation; the cocoons are now picked and the double ones thrown aside, because they always yield an inferior article.

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* One Florin is 50 cents. The florin has 60 kreutzers.

Verona is the great depot for sewing silk

Padua and Rovigo furnish twisted silk, (tortigliata,) of which cords of all colors are made for the Levant market.

Vicenza and Bassano's principal products are double thread Tram silk; it is rather heavy and not very supple, which is ascribed to the hard water used in reeling; it seems that that operation is not well attended to, and the careful removal of the coarser threads on the outside of the cocoon is much neglected, which makes the thread less uniform and pure.

The silk of Tyrol has a fine appearance, and it would be still more even if the maestras would pay more attention to cross the thread properly in reeling.

The silk commerce of Italy has its principal seat in Lombardy. It has undergone great changes during the last forty years, and Italy now produces the best silk, and much more than any other country in Europe.

The facility with which silk is grown and the great profits it yields, induced the silk growers to extend this branch of industry as much as possible.

In the year 1800, the total amount of silk grown in Lombardy alone, was estimated at 1,800,000 lbs. which has since increased to 4,000,000 lbs.; it may perhaps, in the next twenty years, run up to 6,000,000 lbs.

The political difficulties with which Italy has had to contend since the beginning of this century, have much impeded the development of the culture of silk. Napoleon's policy of the continental system closed the English market to the Italians. The East India Company brought to England, Bengal silk as a substitute for the Italian silk; though of an inferior quality, it answered very well for certain articles.

	Italian Silk.	*Asiatic Silk.*
	Pounds.	Pounds.
In the years 1800—1802,	2,011,660	1,350,870
do 1803—1805,	2,437,160	1,306,580
do 1806—1808,	1,917,080	1,704,300
do 1809—1811,	2,280,740	1,198,710
do 1812—1814,	3,147,540	2,516,690
Suma,	11,794,200	8,077,240
Mean average,	786,280	538,483
But in the years 1815—1817,	1,281,280	2,903,600
1818—1820,	3,633,000	2,497,140
1821—1823,	4,094,500	4,432,780
1824—1826,	5,144,000	4,689,640
1827—1829,	6,094,600	5,857,880
1830—1832,	5,308,500	6,138,750
In the year 1833,	1,883,400	1,794,100
do do 1834,	1,631,095	3,143,127
Suma,	28,930,375	31,457,017
Average,	1,446,519	1,572,851

The foregoing tables show that in former periods, the quantity of Italian silk brought into the market, over reached the quantity of Asiatic silk nearly 50 per cent.

In the second period, the importation of Asiatic silk increased considerably; the Italian silk enjoyed an equal share of increase. Of late, a considerable quantity of silk goes to Germany and Switzerland, and the average exports of Austria, are—

To London,	1,330, 100 lbs.
To Lyons,	1,696,000 "
To Germany and Switzerland,	2,552,500 "
To Russia,	169,600 "

According to the official reports, the quantity of silk in Lombardy has increased three-fold within 40 years, and the price doubled; consequently, the income from silk has increased six-fold in forty years The same official reports estimate the value of exported silk to 30,446,640 florins; the amount consumed in the Empire to 12,000,000 fl.; together, to 42,446,640 florins.

To raise 438,000 cwt. of cocoons, requires, 8,760,000 cwt. of leaves; calculating that one man can gather 50 centners in 40 days, employs 175,200 hands in gathering leaves. To every ¾ metric ounces of eggs,—the labor of one woman is calculated to raise the worms, yielding about 100 lbs. of cocoons, which requires 438,000 hands.

Reeling 6,380,000 lbs., employs for 50 days, ...	150,000 hands.
To twist 4,568,000 lbs., requires, during 200 days,	20,000 "
The preparation and manufacture of stuffs from the offals,	13,000 "
Together,	796,200 Individuals

About one-sixth of the whole population of the Lombardy and Venetian kingdoms is thus engaged in this branch of industry. C. L. Fleischman.

IRRIGATION.

Editors of The Cultivator—While in Worcester, Mass., a few days since, I was invited by Col. J. W. Lincoln to examine his system of irrigation, and to accompany him down the Blackstone river into Rhode Island, to look at the watered meadows which so frequently occur on that stream. I was agreeably surprised to find such an extensive and systematic use of water for the purpose of irrigation; and feeling quite an interest in the general subject of watering land by artificial means, I will attempt a description of what I saw in my recent journey, and state some of the principles of the action of the water of irrigation.

Col. Lincoln has 30 acres of interval land, situated on the margin of the Blackstone river, which he has been watering from that stream, for twenty years. A portion of the land had been imperfectly irrigated by a previous owner; but when the Colonel took possession of the land, he found the ditches in so bad a state, and so poorly arranged, that he commenced entirely anew with a thorough and systematic process. The surface of the meadow is considerbly uneven, and it required some skill and care in laying out the ditches so as to conduct the water over the meadow. He thinks that if the thing were to be done again, he should first graduate the surface so as to get the water over the land with greater facility. As it is, however, every part is well watered.

The ground is, as is usual with alluvial lands, highest near the stream, descending thence towards the foot of the uplands, and also descending with the river. On the side of the meadow joining the higher lands, there is a hollow, running through the entire length of the junction, with branches diverging, and some of them extending across the interval; and these hollows are very convenient for draining off the surplus water of irrigation. Wherever it is necessary to convey the water across these hollows in order to distribute over land beyond them, an embankment is raised, with the carrier ditch in the top, and thus the water is conducted over at the proper level. Cheap stone culverts are constructed in these embankments, in order that the trench drains may not be interrupted in their work of drainage. A thorough dam is thrown across the river, a little way above the meadow; in it are strongly secured gates, easily opened or shut, as more or less water may be required; a stone flume receives the water from the dam, and passes it into a main carrier ditch, running from thence through the entire length of the meadow on the highest ground. Small-

or sectional carriers branch out as nearly at right angles with the principal carrier as the surface of the interval will admit, and with such frequency as to conduct the water on to every level of the land. Little gutters are made with a hoe, in the sides of these sectional carriers, through which the water flows in small streams, and then trickles over the entire surface of the ground. To determine the particular place for these ditches, so as to get the water properly over the land, is a work of skill, and requires a practiced eye, together with the aid of a spirit level, and the frequent sticking down of small stakes, for the guidance of the plowman in turning his furrow for the sectional ditches. It is not found advisable to give much descent to the water in the carriers, because it would have too much tendency to the lowest place, and would not flow over the land with sufficient equality. One or two inches fall in every ten feet of length, is enough. Flumes made of plank, with gates in them, are placed in the main carrier ditch, at suitable intervals, and also at the mouth of the side carriers, and by opening and shutting these gates, the water is taken off the land at one place, and let on at another, at pleasure.

When the water is first let into the ditches, if any slight inequalities in the sides or surface of their banks occur, by which the water escapes before they are filled, enough earth is taken from the bottom of them to make all level, so that the water may serve all parts of the land equally. Trench drains are made in the hollows, to conduct off all surplus water, and prevent water grasses from appearing in the sward. In cutting the trench drains, a careful examination with the aid of the level was made, in order, if possible, to give the drains such a direction as should conduct the water to land on some lower level, where it could be again used for irrigation. Much advantage was in this way gained.

In these various ways the waters of the Blackstone are conducted to, and spread over thirty acres of land. The ditches once made, nothing more has ever been necessary in order to thorough irrigation, save the making of slight repairs in the sides of the ditches, occasioned by meadow moles, and the feet of the cattle while feeding off the aftermath.

As I walked over this irrigated ground, observing the rich sediment with which the never failing waters of the river were charged, the thoroughness and convenience of the dam, gates and ditches, for controling the irrigation, and the evidences of the fertility which had been imparted to the meadow, I thought to myself, here is going on that "gallant operation" so quaintly and yet so tersely described by old Walter Blith in his *English Improver*. He remarks—"If either thy land be gravell, or of a sound warm sandie, or mixed nature, and any whit descending, then any running streame will have a gallant operation. The warmer, lighter, and sounder is the land, the greater is the advantage. These particulars discovered, out of question thou hast a wonderful advantage before thee, especially if thou hast any great length and quantity of land along the River, or by a great roade way side, or else hast any good land floods from great townes or cities, make as much of these advantages, and apprise them as thy lands, for though hereby thou canst make thy lands no more, yet thou mayst make them so much better, almost as thou canst desire. And so doe but a little consider of the way of both fitting thy land to thy water, and thy water to thy land, with the truest, naturalest, and properest seasons for bringing it on and taking it off, and thou shalt see an admired issue. For this seriously observe, that the water running trickling among the grasse and upon the earthe, leaving her thicknesse, soyle, or filth, which I call richnesse, among the grasse, and upon the earth, and itself runneth away into the drayning trench, and troubleth thee no more, and so the goodnesse of the water is as it were riddled, screened, and strained out into the lands, and the leanesse slideth away with it."

Col. Lincoln's meadow is naturally of an exceedingly light sandy soil, with a loose open subsoil, so much so that at the commencement of the irrigation, it was difficult to cover parts of it with a grass sward at all. But by appropriating the "wonderful advantage" afforded by the river, by "fitting the land to the water, and the water to the land," he finds that "the" natural "leanness slideth away," and a remarkable fertility takes its place. His interval now gives him an average yield of two tons of hay per acre, per annum. There has been no season, however moist, for the past twenty years, that he has not derived much benefit from the artificial watering.

The Colonel thinks there are no means so cheap or expeditious as those afforded by irrigation, for improving and rendering permanently productive, all dry, barren, sandy, or gravelly lands. Give him water, he says, and just so far as he can spread that, he has no occasion to draw and shovel manure, for the water will bring on, and diffuse, and establish fertility. At the commencement of this enterprise, he took down his old barn, and erected another in its place, of much larger capacity; and although the crops from the farm for the first few years did not quite half fill the new barn, yet there is now no spare room,—the increase being in the greatest degree owing to the irrigation. The artificial watering is indirectly advantageous to the whole farm; for while the meadow yields vastly more hay than formerly, it yet requires no manure from the yards; the extra produce supports a much larger stock of cattle, double the manure is in consequence made, all of which is spread upon the uplands,—thus giving a progressive improvement to all the land. The hay from the irrigated land is found to be of a very milky quality, and the cows and other stock are very fond of it for its softness and succulency. Then, too, there is a full bite of aftermath on the meadow for the cattle in the fall, which comes at a time when the upland pastures are used up for the season.

Now that the ditches are all completed, it takes but a half hour to an hour each day to manage the irrigation; but this daily attendance, however, must not be remitted; on the contrary, much depends upon careful attention and the exercise of judgment, for if the water is not frequently changed from place to place, it will stagnate in the soil, wild grasses will spring up, and the quality of the hay will be injured. No part of the meadow, therefore, received the water more than two days in a week, and after the grass has got well started in the spring, the water is not usually continued more than one day in the week, in one place. In this way the water is used, from early spring to late autumn, saving an interval commencing two to three weeks before haying, and ending at the close of that business. The best success is found to follow, where the water can be made to flow gently over the surface,—a rapid current being apt to carry off fertilizing matters, and a sluggish inactivity being apt to bring in wild grasses. Gentle, but constant activity of the water, is therefore considered to be a leading maxim in the irrigation.

"It is observed," says Prof. Johnston, "that the good effects of irrigation are produced only by *running water*—coarse grasses and marsh plants springing up when the water is allowed to stagnate. Running water comes upon the field charged with gaseous matter, with oxygen and nitrogen, and carbonic acid, in proportions very different from those in which these gases are mixed together in the air. To the root and to the leaf also, it carries these gaseous substances. The oxygen is worked up in aiding the decomposition of decaying vegetable matter. The carbonic acid is absorbed by and feeds the plant. Let the same water remain on the same spot, and the supply of these gaseous substances is soon exhausted. In its state of rest it re-absorbs new portions from the air with comparative slowness. But let it flow along the surface of the field, exposing every moment new particles to the moving air, and it takes in the carbonic acid especially with much rapidity, and as it takes it from the air almost as readily, again gives it up to the leaf or the root with which it first comes into contact. But further, if water be allowed to stagnate over the finer grasses, they soon find themselves in circumstances in which it is not consistent with their nature to exhibit a healthy growth. They droop, therefore, and die, and are succeeded by new races, to which the wet land is more congenial."

In addition to the watered meadow, Col. Lincoln has several acres of upland, situated on a southern slope, which he irrigates temporarily by turning on a small stream issuing from springs in the highlands beyond, and which receives sufficient accessions from the rains and melting snows of early spring to adapt it to that purpose. The brook is brought on to this land at the highest point in the slope; a ditch, made by the plow, runs across the land, at right angles with the descent, and the water, trickling over the lower side of the ditch, diffuses itself over the surface for a considerable breadth, until it is caught by another ditch, lower down, and parallel to the first, when it is again spread, and so on, to the bottom of the slope. If for any reason it is desirable to bring the water on to the land at a lower point than the first named ditch, it can be done by regulating the gates at the mouth of the ditches. In this system of irrigation it is not found to be so important as in the flat land mode, to change the water from place to place frequently, though it is still well to vary its course at short intervals, giving equal benefit to all portions of the land.

Col. Lincoln thinks that irrigation should not be neglected by any farmer who can turn even a small stream, or springs, on to his grass lands for only a few weeks in the spring. On land thus partially irrigated, the grass starts very early, the earth having acquired a thicker covering, is afterwards less affected by drouth, and the crop of hay, although less than on lands receiving a more constant watering, is yet much superior to that on adjoining land, of equal quality of soil, on which water has not been turned. There are many temporary streams, formed in hilly districts in the spring of the year by the rains and melting snow, that collect in their course a rich sediment, which may be arrested and distributed by the water among the grass roots of our pastures and mowings, instead of passing to the river to make a useless deposit in its bed, or aiding to fill up a neighboring mill-pond. Oftentimes, too, by throwing a cheap embankment or dam across the lower end of valleys among the hills, these waters may be bottled up for a more prolonged use.

Even spring water, containing no perceptible sediment, is found in practice to be very beneficial in irrigation. Prof. Johnston remarks that "in limestone districts, these waters are generally impregnated with carbonate of lime, and in other districts again, the springs contain gypsum and common salt, and sulphate of soda and sulphate of magnesia, and thus are capable of imparting to plants many of those inorganic forms of matter, without which they cannot exhibit a healthy growth."

Sir Humphrey Davy remarks that "even in cases where the water used for flooding is pure, and free from animal or vegetable substances, it acts by causing the more equable diffusion of nutritive matter already existing in the land; and in cold weather it preserves the tender roots and leaves of the grass from being affected by frost. In 1804, in the month of March, I examined the temperature in a water meadow near Hungerford, in Berkshire, by a very delicate thermometer. The temperature of the air at seven in the morning was 29 deg. The water was frozen above the grass. The temperature of the soil below the water, in which the roots of the grass were fixed, was 43 deg."

Sinclair, in his *Code of Agriculture*, remarks that "clear spring water, in the state in which it issues from the hills, is certainly of a fertilizing quality; and in either cold or hot weather, it moderates the temperature of the soil. Clear spring water may also be used longer than the foul or muddy, being less apt to render the grass gritty and unwholesome; hence some give a preference to clean watered crops."

Several interesting experiments have been made by distinguished philosophers, showing the effects of pure water upon vegetation.

"Mr. Boyle dried in an oven, a proper quantity of earth proper for vegetation, and after carefully weighing it, planted in it the seed of a gourd. He watered it with pure rain water, and it produced a plant which weighed fourteen pounds, though the earth producing it had suffered no sensible dimunition."

"A willow tree was planted by Van Helmont, in a vessel containing a thousand pounds of earth. This plant was watered with distilled water; and the vessel was so covered as to exclude all solid matter. At the end of five years, upon taking out the plant, he found it had increased in weight 119 pounds, though the earth had lost only two ounces of its original weight."

There is another theory as to the action of simple water when used for irrigaton, which I will state. It is believed by some that all plants excrete certain matters from their roots which are hurtful to other plants of the same kind; that the cultivated grasses, being in time affected by their own exeretions, do not continue permanently healthy in the same site, and therefore mosses and other inferior plants, spring up and extirpate them; that the water of irrigation, in its descent through the soil and subsoil, washes away this excrementitious matter from the roots of the grasses, and carries it off in solution; and that hence, in a good degree, the healthfulness and verdure of irrigated meadows.

After taking a good look at Col. Lincoln's irrigation, I accompanied him down the river into Rhode Island, to view the watered meadows which there so frequently occur. Some of the meadows preserve their original surface, and the ditches are laid out, and the water distributed, in a way precisely like that practiced by Col. L. Other meadows have been graduated by the plow and scraper, so as to present a surface best adapted to systematic irrigation. A mound of earth is raised, extending through the centre of the meadow in its entire length, and a carrier ditch, starting from the dam in the stream, enters this mound, and passes the water through the interval. The land on each side of the main carrier is laid out in beds of forty feet in width, at right angles, lengthwise, with the main carrier. The beds are made quite crowning in the centre, by frequently back furrowing the soil with the plow. Sectional ditches cut through the centre or most crowning part of these beds, take the water from the main ditch, and pass it the entire length of the beds. Frequent little openings are made in the top of the sides of these sectional carriers, through which the water flows, and then it spreads each way from the ditch, over the entire surface of the beds, passing into the dead furrows, when used profusely, and by them it is carried to a main trench to be conducted to land on a lower level, or else back into the river. Flumes and gates are placed in the main carrier at suitable intervals, and also at the mouth of the side carriers, so that the water can be changed from one section to another, as desired.

It struck me, upon viewing these graduated meadows, that they were in the long run, of a cheaper construction than those where the surface is left in its natural state. Once done, they are right for all time, the irrigation is easier managed, the water more perfectly distributed and drained off, and its effects, in consequence, are more beneficial.

I should remark that all the irrigated fields which I saw in my recent journey are invariably of a light dry sandy soil, with an open subsoil. It is found, however, in practice elsewhere, that almost all soils are benefitted by irrigation, if water does not stagnate for want of proper drainage.

Sinclair remarks that "irrigation is not restricted to any particular description of soil. Land naturally wet may be greatly improved by it, when accompanied by drainage, and it is equally beneficial to that which is dry. Rich loams produce the greatest crops, even though waters be not of the first quality. Peat bogs, when properly drained, will likewise yield good crops. Irrigating adhesive clays is expensive, and the benefits from it do not so soon appear; but it is evident, from a meadow near Longleat, that even this sort of land may, by good management, be thus rendered more fertile; and it is well known that some of the best meadows in Gloucestershire, and at Woburn, are upon a clayey substratum. The most suitable soils, however, are those of a sandy or gravelly nature; more especially when they can be irrigated by muddy streams, the sediment of which corrects their excessive openness. Indeed, by means of the warm and rich waters of a low, fertile and populous district, impregnated with mud, and full of animal and vegetable manures, almost any soil may be converted into a rich meadow."

Finally, the theory of the advantages of irrigation is thus summarily stated by Stephens, in his *Book of the Farm*. "*Could the hand of man*," he remarks, "distribute manure around the roots and stems of grass as minutely and as incessantly as turbid water; could it place a covering of woolen texture upon each blade and around each stem of grass, as completely as water can embrace each plant and keep it warm; could it water the grass as quietly and constantly as the slow current of irrigation; and could it wash away hurtful matter from the soil as delicately from the fibres of the roots of grass as irrigating water, there would be no need of irrigation; the husbandman could then command at will verdant pasturage for his flocks and herds, throughout the year, and in the driest season. *His mechanical* agency would be as effective as irrigation; but constituted as the relative state of things at present are between man and the action of physical laws, he employs irrigation as an instrument of his will, and induces Nature to assist him in maintaining his live stock by an application of her peculiar mode of acting, under his own guidance, but in which she undoubtedly displays her superiority over him, both in perseverance and dexterity."

I have prolonged my article to a great length; but believing that the subject of irrigation is not very generally understood, and that the art is much less practiced than it should be where so many excellent natural facilities for it exist, I have thought it advisable to be at considerable pains in citing authorities sufficiently to explain its principles, and turn attention to its practice. F. HOLBROOK.
Brattlboro', Vt., April 30, 1850.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Pear-Tree Blight.

John Randolph once remarked to his physician, "in the multitude of counsellors there is *confusion*," which is true when hasty and partial opinions are given. This is strongly illustrated by the discussions on the Pear-tree Blight.

"It is always caused by the freezing of winter," says one. "It is always produced by the burning heat of summer," says another. "It is owing to succulent growth, produced by injudicious cultivation," asserts a third; "it comes on like a pestilence or the potato rot, uncontrolled and unaverted by any skill," responds a fourth. Some have discovered that it is caused by an insect girdling the interior bark; others, that it results from the poisonous sting of an insect in the branches. Many maintain that particular varieties only are strongly liable to this disaster, and many more, that it attacks all sorts alike.

In addition to previously advanced opinions, we have received a communication from E. J. GENET, of Greenbush, N. Y., in which he confidently advances the belief that he has discovered the true cause; but the length of his communication, and the very narrow limits of the Horticultural Department of this paper, preclude its publication entire. We can furnish only an abstract of his theory and observations. At or a little before mid-summer, in the absence of dew for several nights, he observed liquid drops falling from a pear tree, which were subsequently found to proceed from minute aphides thickly covering the shoots or branches, and which had at first escaped notice from the identity of their color with that of the pear bark. The varnish which these insects exude, is regarded as a poison, absorbed by the pores of the bark, and preventing also the natural perspiration. These insects were observed to continue for about ten days, when they disappeared. They are doubtless worthy the attention of fruit growers, and may under certain circumstances produce the death of the tree or branches; but it would be deciding from too limited data to say that this is the usual or universal cause. Observations must be made with great judgment and accuracy through all parts of the country,—through a long series of years,—through all the variations of seasons,—under all modes of cultivation,—in all varieties of soil,—and in various latitudes and climates, to enable any one to overthrow all previous opinions, and to establish a single theory applicable alike to all cases. But it is always interesting and useful to receive and record all the observations which may be made, relative to this formidable malady.

The following remarks of our correspondent, relative to the *periodical appearance* of the fire-blight, will be new to our readers, but we fear the rule will be regarded by some as established as much by its exceptions as by direct evidence:—

"The same disorder prevailed among the apple, pear, and quince trees, on the banks of the Hudson in 1780, and continued its ravages until 1793. Twenty-two years after, (1802,) it again made its appearance, and continued its attacks for 4 or 5 years. Again 22 years elapsed, and in 1824 the same disorder prevailed, and lasted 4 years;—and in 1846 we were once more sufferers from the same cause—our pear trees are still prostrated by its fatal attacks. This disease has been called by some "fire blight"—it has been attributed to a "coup de soliel"—one writer says it is produced by the *aphis lanata*, a small insect covered by a fine white wool;—the insect which came under my observation, is very different in every characteristic—so small as to escape notice in the first stage; and so similar to a *fly* at maturity as to mislead an inattentive observer."

Experiments in Raising Seedling Peaches.

The cultivation of the peach having engaged some of my attention, I collected all the fine sorts I could get; still for a while I had no good ripe peaches. Seven years ago, I went to Mr. Conklin's extensive peach orchard about the 20th of September, and bought two bushels on purpose to get the seeds. We sought the very best we could find; his early peaches were nearly gone; I took the last on the trees. *That* brought the ripening of them to the period I picked the peaches off, 20 days later. The Columbia was just beginning to ripen; I got the first ripe. That brought them two weeks earlier than the original. I planted the stones in rows, like planting potatoes, only covered shallow, following nature as near as I could. All brought the same sort in color and appearance. The result is, I have the Morris White through the season; the Columbia and Early York also, so that the whole space is now filled with the same species from last of August to 20th October, and any farmer, if he has one superior peach tree, can raise seedlings from it, and change to early and late to last the whole season. But plant the stones when fresh, if you expect to raise a good tree, for if they become dry, you will get a poor peach something resembling the original, but worthless. My seedlings, out of about 500 trees, which I planted seven years ago, contain only about four trees that are not as good, and many much better than the original. THOS. CRAIGHEAD, JR. *Whitehill, Cumberland Co., Pa., March.*

The importance of raising new varieties which shall be severally better adapted to the various and widely differing localities of our broad territory, than existing sorts, is becoming strongly felt by the cultivators of fruit. Experiments therefore, like the preceding, are of much interest and value, and our correspondent appears to have been unusually successful in the excellence of his results.

The opinion is by no means uncommon, that by planting apple seeds and peach stones *in the fruit*, or perfectly fresh, the seedling will very nearly resemble the original. This result can be confidently asserted only after repeated experiments in both ways side by side. Whether this has any influence whatever, is not perhaps as yet established. It is probable that the peculiar character of the seedling is chiefly if not wholly stamped upon the seed at the time of the impregnation of the ovule by the floating pollen; after causes may modify the result, but if so, in but small degree. At any rate, we do not find any modifying effect by freshness or age, in any of the common seeds sown by the farmer, nor any thing of the kind in the cucumber, melon, and squash. ED.

The Peach Crop.

Throughout Western New-York, there is a most promising appearance of an abundant crop of peaches. The trees are loaded with blossoms. In a large portion of the northern States, appearances are equally favorable. Northern Ohio will doubtless afford an abundant supply, but in the central portions of that State the crop is thin, although in many localities a fair product will be obtained. It sometimes occurs that the crop is destroyed or injured late in spring, or after the present period, but such occurrences are unusual. We must not, however, be too confident in advance, as it is better that our hopes should be exceeded than disappointed.

Sweet and Sour Apple.

I have observed several remarks on the Sweet and Sour apple in *The Cultivator*. I am in possession of a few facts which I have never seen published. The apple that I am acquainted with has been growing in what was formerly my father's orchard ever since my recollection; there are now but three trees living; they do not mix as well as formerly. On 2 of the trees I have not observed any except sour ones for two or three years; on the other tree, they still mix pretty well, though they are mostly all sweet or all sour, growing promiscuously. The sour apple is a perfect Rhode Island Greening, consequently a winter apple; the sweet is a fall apple, about half the size of the Greening, which causes the mixed apples to grow in ridges. The sweet apple is an agreeable, pleasant apple. I have never seen the kind any where else. The wood of the tree is curly. BENJ. MACOMBER. *Grand Isle, Vt.*

The above described variety has been considerably cultivated in various parts of the Northern States. It is a very singular peculiarity of the fruit, that certain portions, and often the whole apple, by a sort of diseased or imperfect growth, fails to develop the acid qualities of the juice. This imperfect growth is shown by the smaller size of the sweeter portions, and by its whitish or blanched color. A similar mixture of imperfect and healthy vegetable growth may be seen in the leaves of the *ribbon grass;* and the tendency to sweetness or insipidity in blanched substances is shown in celery and sea-kale, and in potatoes kept excluded from the light.

It is a very common notion that this variety was originally produced by cutting through the centre, the buds of a sweet and sour apple, and joining the halves of each at the time of budding. But such a result is a physical impossibility. For in common budding and grafting, the union always takes place by the granulations of the newly forming wood; a bud consists of a great number of minute and concentrically folded leaves, and all these edges cannot be made to coincide, much less to adhere together. If it were possible to cut directly through the vital point of the bud without killing it, and the two parts could be made to adhere; then, as in every other instance of union between two dissimilar varieties, each part would maintain its own identity.

When a sweet tree is grafted with a sour fruit, all the parts above the graft will bear sour apples; and all parts below, if branches are allowed to shoot out, will bear sweet apples. In the same way, if it were possible to make the two parts of a bud adhere, which is wholly improbable, then one side of the resulting tree would bear sweet apples, and the other sour apples, each sort being perfectly distinct. The Sweet-and-Sour apple is evidently a distinct variety, produced from seed, resembling the Rhode Island Greening in flavor, but differing in the growth of the tree. We have heard a great many persons assert that this variety was certainly produced by the two halves of the buds; but we have never been able to find the man who had performed the operation or seen it done. Ed.

Influence of Grafting on Varieties.

"Is it true that the straight upright shoots of an apple tree set as grafts, will produce straighter trees than the lower and curving side shoots? and that the trees from grafts cut from young unbearing trees will be longer in coming into bearing?" C. T.

It is a common opinion that a difference is produced in the new tree by the part of the tree from which the grafts are cut. Experiments, however, made under the observation of the writer, do not favor this opinion, as no difference could be observed in the results produced. Cultivators sometimes arrive at erroneous conclusions by reasoning by false analogy. The improvement in the Indian corn and other crops, by successive selections of the seed, has induced some to think that similar changes may be made by successive selections of grafts. But where seed is planted, a new individual or new variety is produced at each germination; while grafting or budding is only a perpetuation of the *same* individual or variety. It may indeed be modified for the time being, by external and constantly acting causes, but its nature cannot thus be permanently changed. The quality of a pear is often greatly changed by grafting it on the thorn, apple, or quince; but it again resumes its former character, when grafted back to its original kind of stock. A certain variety of the apple may be changed in quality and productiveness, by being transplanted into a different soil; but trees propagated from the latter and set back into the former soil, will not retain any of the change. No permanent influence appears to be wrought upon the variety

To make Peach and other trees bear Young.

S. W. Cole says, "To induce early bearing, particularly where trees are luxuriant and barren, clip off the extremities of the branches in July, about one-third of the new growth; this will produce blossom buds the latter part of summer, for a crop the next season. We have found this very successful." A. J. Downing says, "If you wish to bring fruit trees into bearing at an early age, pinch off the shoots the first of July, and again at the end of six weeks."

Soap-Suds for the Grape.

A. J. Downing says "I have seen an Isabella grape produce 3,000 fine clusters of well ripened fruit in a single season, by the liberal use of manure and soap-suds from the weekly wash."

The effect of soap-suds on other plants is sometimes surprising. A cypress vine, which had remained stationary for a fortnight when about two inches high, immediately commenced growing after a good watering with soap-suds, and grew about 6 inches the first five days. The peach is much benefitted by soap-suds.

Peaches and the Curculio.

The following extracts from a letter of a distinguished amateur cultivator, present some interesting facts, relative to the liability of different peaches to the attacks of the curculio:—

Serrate Early York—"This is the best peach of its season, ripening with me, 3 to 5 days after the Early Tillotson—it is not quite so rich a peach as the Tillotson, but more hardy—a good bearer, and what is better than all, the curculio does not touch it—while they will, literally, eat up the Tillotson, stone and all!"

Large Early York—"The very best, out of 25 kinds, that I have growing—the tree is hardy, a fine grower, a great bearer, and the fruit is exempt from the curculio."

"How is it, that the curculio will work at a peach quite downy, when those with smooth skins, on an adjoining tree, will not be attacked at all? The Large Early York is quite a smooth-skinned peach; Hills' Chili, standing next to it, carries as much wool as a sheep on its back—still the latter suffers dreadfully from their attacks, while the former is not touched at all." D. T. Moseley. *Skaneateles, N. Y., April*, 1850

The Tree Box—(*Buxus sempervirens.*)

This beautiful evergreen is quite hardy at this place—one and a half miles east of the Cayuga Lake—though I should be apprehensive of injury, where the thermometer at any time in winter, indicated twelve or fifteen degrees below zero. I have one about 8 feet high, and very bushy. One spring, the leaves on shoots of the last year, had assumed a yellowish cast, but they soon recovered their color, and there is not a dead twig on the whole *tree*.

Loudon in his Encyclopædia of Plants, enumerates three species of *Buxus*, all natives of the Eastern world. Speaking of *this* kind, he says, it is a native of most parts of Europe from Britain southwards, and is very abundant in different parts of France and Switzerland. It abounds in many countries of Asia, as about Mount Caucasus, in Persia, China, and *America*." The last name however, is probably a slip of the pen, as it is not known to be indigenous to this continent.

The box grows well under the shade and drip of trees. Like the Yew, it bears clipping; and sometimes it is made to assume very fanciful forms. Such objects as novelties indeed, may interest us for the moment, but a correct taste will be more charmed with the wild luxuriance of nature. *D. T. Greatfield, near Aurora, N. Y.*, 4mo., 1850.

Scions for Budding.

The wood of rose cuttings should be *well matured*, especially if they are to be sent great distances by Express, or to be kept some days before using. When detained on the way—and small parcels are sometimes overlooked—the most succulent, or least ripened wood, always suffers the most. Two years ago, I had 56 kinds of rose cuttings sent me from Virginia; but they were kept back by some unworthy agent, longer than the time required from Liverpool to New-York, and every one perished, though the most succulent were the most decayed. Except where the buds are set with very little delay, no sci-

on less mature than a twig that has flowered, should be chosen. D. T.

Leaf-blight in the Plum.

Accident often teaches valuable lessons to the observing. The following interesting fact is mentioned by F. K. PHOENIX, in the *Prairie Farmer:*—"I called on Mr. Truesdell of Elgin. The leaf-blight had troubled the plum trees last year for the first time. On one spot he showed me, they seemed wonderfully vigorous and healthy, while all about them were more or less stinted with the blight. On inquiry I learned that in that place there was formerly a cellar which had been filled up, and in the great depth of the soil, the roots had sustained themselves against the blight."

Expeditious Budding.

The same writer says, "The Messrs. Overmans (of Canton, Ill.) are the greatest "live" budders I ever saw, or I may say, ever heard of,—the two brothers having set, as I learned, 3250 *buds in one day!* The buds and stocks, however, were previously prepared." This was very good work, but there is a "*live budder*" now in Western New-York, who set about half that number, or equal to one of those individuals, in a day, and prepared his own buds; and yet, budding must be a great deal easier in Central Illinois where trees grow so rapidly, than here; for our friend Phoenix says in the same article, "With apple trees it did not seem as if a bud could fail,—no matter whether the stocks were large or small, or the work nicely or coarsely done. In fact, after investigating the matter pretty closely, I became almost satisfied that it was enough barely *to strip off a bud and fling it at a stock, to have it take!!*"

As a proof of the wonderful rapidity of the growth of apple trees in that region, it is stated that a very irregularly planted orchard was observed on one nurseryman's grounds, and on inquiring the cause why they were planted in such disorder, it appeared that these trees were what they called *culls*, which were to be cleared off a *year or two* before, but had been neglected by the owner. Thus left, they had actually run away from him, having become orchard trees! Buds too, will make a good growth the same season they are set. No wonder that nurserymen there can afford to sell all kinds of trees at *six cents* a-piece, as we have seen advertised.

The Peach Worm.

Our readers will bear in mind, we hope, that all peach trees suffering from attacks of the peach worm, should be thoroughly examined and cleared of these intruders, before the end of the present month. The exudation of gum at the surface of the ground, mixed with the pulverised bark, is a sure indication of their presence. The mode of dislodging them is well described by a certain distinguished horticulturist in Downing's Magazine, under the incog. of "OLD DIGGER"—

"You can do this good turn for a peach tree in five minutes, by lifting the soil around it two or three inches deep, laying bare the stem just between wind and water, as the old sailors say. If all looks clean and smooth there, very well; replace the soil again. If, on the other hand, you see *gum*, then look out for the enemy. Scratch a moment with your knife where the gum oozes out, and you will get on his trail; cut into the bark till you find him—in the shape of a white grub, three-quarters of an inch long—and when found, 'make no note of it,' but settle his accounts as rapidly as you can.

"This grub comes from an egg laid in the bark, in summer, by the winged insect. Unless the creature is wonderfully abundant, it contents itself with looking about for the tender bark at the surface of the ground. On this account, it is a good plan to outwit the rascal by heaping up a little cone or pile of wood ashes, tan or sand, say six inches high, around the trunk. The sole object of this is to guard the soft place in the bark at the neck of the tree. On this account you must clear away the pile every fall, so as to let the bark harden again. If you do not, but keep it there winter and summer, you will find that it does no more good than blowing against the wind—for the very plain reason that the bark becomes tender at the top of the pile, instead of the surface of the ground, as before."

The same eminent writer gives us the results of an experiment in treating these little fellows with hot water; which however, for general use, will not be found quite so convenient for the worm, as the knife:—

"I have satisfied myself by experiment, (though I am sorry I have not yet had time to get up the *theory*,) that a good dose of hot water is a means of bringing-to many a peach tree just about giving up the ghost. It seems to rouse the vital powers; and if there is life enough left, a good scalding at the neck seems to produce a reaction that is at times quite wonderful.

"Three years ago I had two trees, a peach and a favorite apricot, that had been failing for a couple of seasons—often thought before that very serviceable trees. They had been rather badly treated by the worm, to be sure, but that had been attended to in time, and the roots appeared to be in very fair condition. Still, the trees dwindled, looked sickly, and bore little or no fruit. As a desperate remedy, I resolved on a trial of hot water. I removed the soil directly round the neck of the tree, making a basin three inches deep and twenty inches across. Into this I poured twelve gallons of boiling water.

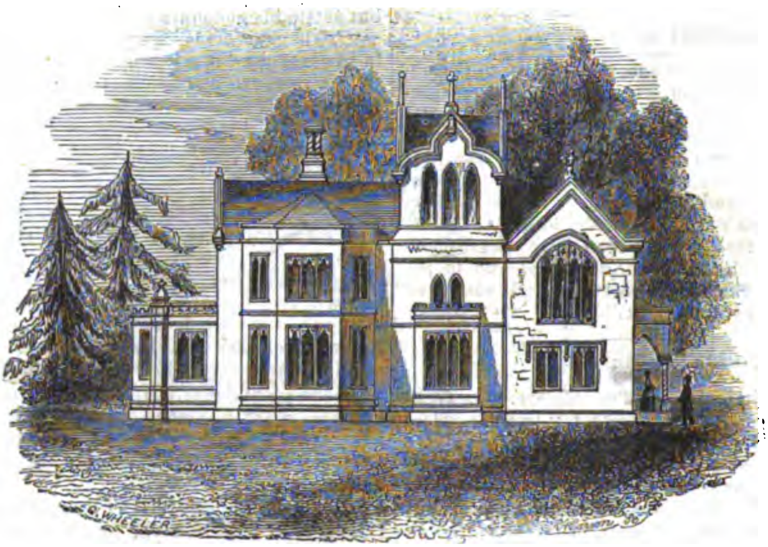
"To my great satisfaction the trees, instead of dying, immediately pushed out vigorous shoots, took a healthy appearance, and made a fine growth of wood, and have since borne two crops of delicious fruit. I experimented last year, again, with equal success, and now am ready, like old Dr. SANGRADO, to prescribe *hot water* in all desperate cases."

PROFITS OF HIGH CULTURE.—At one of the Boston Agricultural Meetings, George Pierce, of West Cambridge "advocated the high culture of fruit trees, and raising no crops among them after they were large. From four apple trees which he set in 1839, he gathered last year, (10 years) twenty-nine barrels of choice fruit, twenty barrels of which sold for $100. He sold $997 worth of fruit, the past season, from eight acres of land."

GARDENS IN FRANCE.—A writer in the *Revue Horticole* says there are 600,000 hectares (over 1,000,000 acres) of gardens and orchards in France, giving employment to about 2,500,000 persons. A very large proportion of these are undoubtedly market gardens.

☞ What maintains one vice will bring up two children.

The master's eyes will do more work than both his hands.



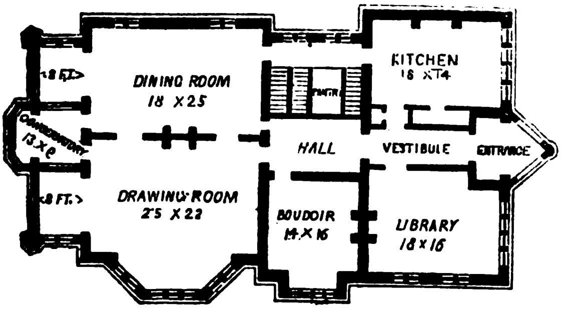
VILLA IN THE TUDOR STYLE.

Rural Architecture.

Design for a Villa.

The accompanying designs were originally furnished for the *Horticulturist*, by Mr. G. Wheeler, architect, Hartford, Ct., and from his explanation of the plan, we take the following:

This design is that of a country residence, suited to the demands of a family of taste and wealth, and is made in the Tudor Gothic style of architecture, adapted to the wants of the present day.



Principal Floor.

The disposition of the plan provides for a large dining and drawing-room, which communicate with each other, and also, by means of glass doors in the side of the rooms, with a conservatory or plant cabinet; an arrangement which would be found very beautiful in effect, and convenient for many purposes.

There is next to the drawing-room, and communicating with it, a boudoir, or ladies' room; and the dining, drawing, and this latter room opening *en suite;* the space capable of being thrown open, on occasion of company, would be found very liberal. Next to the boudoir is the library, a large well lighted, and handsome room. All of these rooms, with the exception of the library, are fourteen feet high, and large in proportion.

A kitchen, large staircase and entrance halls, pantry, &c., and back staircase, complete the accommodations on this floor.

Entrance is gained to the house by means of an angular porch, consisting of a single pillar, from which spring two arches, stopping against the wall of the house, and resting on corbels on either side of the spacious entrance doorway. This porch might, if desired, be made very much larger, so as to admit of a carriage driving through, and permitting visitors to enter under cover.

Over the library and kitchen is a large room, which it is intended, in the present instance, should be used either as a private chapel or large library; but if such an arrangement is not desirable, the room could be divided into three chambers, or otherwise distributed as may be required. The boudoir forms the lower story of a species of tower, which is carried above the roof.

The large angular bay of the drawing-room is also extended to the room over, which room would thus make a very spacious and desirable chamber.

The style of the house is one that would be peculiarly adapted to those localities where the scenery was rather sylvan than wild, and on an undulating lawn, stretching away to a broad river or lake, and backed by tree clad hills, would look very well.

The material might either be entirely stone, or brick with stone dressings; the latter being a frequent and very appropriate manner of building in this style.

The windows should be glazed in a manner accordant with the spirit of the design, and the interior of the rooms protected from the heat of the sun by inside shutter blinds, made to slide into the walls, whilst there might be in the drawing and dining-rooms, sliding doors, glazed or otherwise, which could be made to entirely shut off the bays, either to contract the size of the rooms in cold weather, or to shade the rooms from the sun in the middle of the day during the summer.

The Reviewer.

Poultry and Poultry Books.

Domestic Fowl: Their Natural History, Breeding, Rearing, Feeding, and General Management; by H. D. Richardson. Third edition. Dublin, 1849.

The American Fowl-Breeder: Containing full information on Breeding, Rearing and Management of Poultry; also instructions concerning the choice of Pure Stock, Crossing, Caponising, &c., with engravings; by an Association of Practical Breeders. Boston, 1850.

The New-England Poultry Breeder: Being a brief History of Domestic Fowls, and containing full directions for their Rearing and Management; illustrated with twenty-five correct Engravings; by a Practical Poulterer Boston, 1850.

Eds. Cultivator—The rearing and management of poultry, is a business of more importance, in a commercial view, than would be supposed without particular examination. According to the census of 1840, the value of poultry in the United States, was $12,176,170. The amount of sales of poultry in the city of Boston, for 1848, is computed at one million of dollars. The annual sales in the city of New-York, probably amount to a still larger sum, and those of other cities and towns to equal sums in proportion to their population. The statistical returns of various European countries, represent the interest as possessing a corresponding value there.

I do not imagine, however, that the great interest which has lately been manifested in the rearing of poultry, has arisen wholly from a sudden perception of its relative consequence among the productions of the country, or from an impression that the pursuit of the business is generally attended with extraordinary profits. Whatever may have been the influence of these ideas, I am inclined to think that the desire of obtaining new or rare varieties—either on account of their supposed superiority, or their novelty—has been a greater cause of the attention now devoted to the subject. Hence, a leading motive in the publication of most of the new works on poultry, has been to describe varieties represented to have been hitherto uncommon.

In treatises on animals, it is obviously proper that the peculiar characteristics of species and varieties should be given; but they should be given with correctness, and in their classification, each should be placed in its appropriate position. It is to be regretted that some of the descriptions contained in the works referred to, are calculated to propagate error and create confusion, and that they betray an ignorance or disregard of the most important principles in which the subject is involved.

I do not propose to enter into a detailed criticism of all the poultry books which have lately been issued, but with your permission, will notice some portion of the contents of those under the above titles, and on another occasion, may ask space for noticing others.

Mr. Richardson's book, has not, probably, had a very large circulation in this country; but as it has been frequently referred to as authority by other writers, and has constituted the main body of at least *one* of the late American poultry books, it deserves some notice here.

Mr. R. arranges the breeds of domestic fowls under twenty-five different heads. He begins with the Malay—a stock which derives its name from having been brought from Malay, or Malacca, the southern peninsula of Asia, of which, and the neighboring region, it is undoubtedly a native. The second variety is the "Java fowl." This name, however, the author thinks is wrongly applied, and regards the variety as a "cross between the Malay and Dorking or Spanish fowl."

That different breeds of fowls have been brought from the island of Java, is a well known fact, but I have seen none that indicate any such "cross" as is here spoken of, though there are various home-bred mongrels under the name of Javas. But the large fowl generally known here as *the* Java fowl is evidently but a branch of the Malay. Hence Martin—decidedly the most systematic and intelligent writer I have met with on this subject—describes the Great Malay, Cochin Chinese, or Kulm Fowl, (*Gallus giganteus*,) as *"a native of Java, Sumatra, and perhaps the Malay peninsula."**

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* Poultry: by W. C. L. Martin, late one of the officers of the Zoological Society of London. 1848.

Having put down the Malay and Java as the two first varieties, Mr. Richardson goes on with the Shakebag as the third, the Spanish as the fourth, the Columbian as the fifth, the Dorking as the sixth, the Spangled Hamburgh as the seventh, the Polish as the eighth, the Dutch Every-day-layer as the ninth, the Barbary fowl as the tenth, and the *Cochin-China* as the eleventh variety.

The consistency of an arrangement which thus places the Cochin-China fowl the *tenth remove* from the Malay, is not easily perceived. Aside from the hyperbole of his own account, it is obvious that there is no material distinction between them. Mr. Richardson claims to draw his description of the Cochin China fowl, from specimens in Her Majesty Queen Victoria's aviary. Mr. Martin, speaking of the same fowls, says he is aware that "some regard these as distinct from the *Gallus giganteus*, but we look upon them as a mere domestic variety of the Malay gigantic fowl."

But Mr. Richardson has doubtless heard the adage that "the king's chaff is better than other men's corn." He says—"This variety of fowl [the Cochin-China] *so far surpasses both in size and power, all that we have yet seen in the shape of poultry*(!) as to have led many persons not conversant with zoology, on first viewing them, to refer them to the family of Bustards." But notwithstanding their wonderful size and other characteristics, he admits that they are "genuine poultry." One of the most "striking" of the "distinctive" traits which he represents as belonging to these fowls, is a peculiar structure of the wing, "so that the posterior half can, at pleasure, be doubled up and brought forward between the anterior half and the body. The birds," he continues, "can do this at pleasure, and the appearance the manœuvre imparts to their form, has procured for them the title of 'ostrich fowl.'"

Many persons will recollect that the "title of ostrich fowl," was given to various specimens of the Malay, long before the introduction of the Queen's fowls; and those who have kept them know that the doubling of the wing, which Mr. Richardson magnifies into a strange anatomical peculiarity of the Cochin-Chinas, belongs, more or less, to the whole tribe. There is no mystery about it. The chicks are often thinly feathered, and in many instances remain quite naked until several months old. The feathers of the tail and wings are shorter than in ordinary fowls—in some individuals, indeed, are scarcely developed at all—and the whole plumage has a more downy character. From the absence of the wing-braces, or pinion feathers, there is nothing to prevent the close folding of the limb, as in newly hatched birds.

But the *fecundity* of the Queen's Cochin-China fowls, according to Mr. Richardson, is still more astonishing than their size and the structure of their wings. He says—"They are very prolific, *frequently laying two, and occasionally* THREE eggs on *the same day, and within a few moments of each other!*" Verily, this is only equalled by "Old Grimes' hen," which is *poetically* described—(I cannot relate the story in verse)—as having laid *two* eggs every day, and *three* on Sunday.

But Mr. Richardson's encomiums of the Queen's Cochin-China fowls do not end here. In a communication on the varieties of fowls suited to the farm, published in the *Irish Agricultural and Industrial Journal*, 1848, after having described the principal qualities of these fowls, in language similar to that I have quoted from his book, he thus extols their *prowess*: "The cock is *game* to the last degree, capable of killing the most powerful game-cock in a few moments!" How *crest-fallen* must be the amateur breeders of the hitherto invincible game cock at this announcement! Why have we not already heard that the Earl of Derby has disposed of his aristocratic stock of game fowls, which he and his ancestors for several generations, have bred with such scrupulous care, and substituted in their place these valorous Cochin-Chinas? But Mr. Richardson is probably the only breeder who has discovered the superiority of these fowls as a *fighting stock*.

In describing the Bantam fowl, Mr. Richardson gives the specimens of the breed "kept by her Majesty, at the Home Park," a prominent place. He tells us that "they possess some peculiar traits of habit and disposition that we cannot overlook." The cocks possess the "strange propensity" of sucking the eggs laid by the hen, and their impulse to gratify this appetite is represented as so strong, that they will not only drive the hen from her nest to obtain the eggs, but "have even been known to attack her, tear open the *ovarium*, and devour the shell-less contents." But by the ingenuity of Her Majesty's keeper, this habit was finally broken up. He gave the cocks a marble egg to "fight with," preventing, at the same time, their access to the hens and to real eggs. This so thoroughly cured them in the course of a few weeks, that they made no further attempt at the "destruction either of the hen or of the actually *laid* egg."

But these Bantams exhibit another "strange propensity,"—"a passion for sucking each other's blood." They pulled out each other's feathers, and sometimes pecked each other naked. But the keeper overcame this propensity likewise. "That person observing that the birds were subject to great heat of the skin, and that its surface occasionally became hard and tightened, conceived that in such cases the hard roots of the feathers being drawn into a position more nearly at right angles with the body than at ordinary times, the skin and superficial muscles were thus subjected to an unusual degree of painful irritation; and it immediately occurred to him, that the disagreeable heat in question was simply a *provision of nature for the relief of the suffering birds*." He was, however, induced to make some application to the skin of the fowls—such as anointing with "pomatum," &c., and their plumage remained afterwards untouched.

Now in what is here described, as remarkable and peculiar propensities of these Bantams, is anything more discernable than is often noticed in ordinary fowls? Almost every one knows that when fowls are confined to small enclosures, (and sometimes when running at large,) they are liable to contract the habit of pulling out and swallowing each other's feathers. Generally one or two individuals of the flock, are made the special victims for the gratification of the morbid appetites of the others. Sometimes the fowls which are "pecked upon" are almost entirely denuded of feathers; but more frequently the plucking is confined to particular parts of the body—as the breast, or abdomen—and the habit is occasionally so inveterate, that the fowls do not stop with drawing the feathers merely, but break the skin, and tear out the crop, or the entrails. Should the oviarum in such cases, be torn out, it is very probable that its "shell-less contents" would be devoured.

When this feather-eating habit first makes its appearance, in the poultry-yard, the mischief is often done by one or two of the flock. These should at once be sought out, and if they possess no special or extraordinary value, it is best to dispose of them at once; or if this is not done, to confine them in separate places till they forget the habit. In this way, the trouble, if taken in time, may be easily got rid of, but if allowed to run on, it is difficult of eradication. As to medical treatment—"pomatum" is sometimes used to promote the growth of *hair* on *coxcombs*, and it might have a similar effect on *cock's feathers*. If any substance disagreeable to the taste of fowls were mixed with it, it might tend to preserve the subjects to which it was applied, from further molestation; but it is probable that *grease*, "by any other name," would do as well.

The "*American Fowl Breeder*" takes its illustrations and descriptions of varieties chiefly from Richardson, though it occasionally puts forth an idea not found in the original. It speaks of "the Java fowl" as if there were but one variety belonging to Java, and this, it says "resembles the Malay in shape," and also in "its character and qualities," but which is "supposed to be a cross of the Malay and the Dorking or Spanish breeds." This *supposition*, the authors of course derive from their prototype, as has been shown above; but another hypothesis is added, viz., "it is generally supposed that from this variety, the English game cock originated." In other words, the English game fowl originated with a variety resembling the Malay "in character and qualities," and *that* variety originated in a "cross between the Malay and Dorking or Spanish breeds!" Tell such stories to the marines—who else will believe them?

The Cochin-China fowl is described as a "*species*" which has been "very recently introduced into England," as a present to Queen Victoria. Following Richardson, it is said—"This fowl surpasses, both in size and power, all known descriptions of poultry," being "nearly allied to the Bustards." Whether geese, turkeys, &c., are considered "poultry," does not appear. The phenomenon of the hens laying three eggs a day, "and within a few moments of each other," is told in Richardson's language, though not credited.

To the Bantam fowl, the same strange propensities are attributed as mentioned by Richardson, and the description, with no intimation of its being copied, is given mostly in his language. We have the same story of their thirst for each other's blood, of their hankering after eggs, even while in the body of the hen—and the same account of the "marble egg," and other means resorted to for curing the habit, with the additional prescription, by way of *improvement*, of washing the fowls "with *hot* water" to "allay the irritation." If the water were sufficiently heated, it would undoubtedly produce this effect.

The "*New-England Poultry Breeder*," may, perhaps, be said to be a more *independent* work than some of its cotemporaries, though it can have but trifling claims to be considered a systematic (much less scientific) treatise. This "Practical Poulterer," as he styles himself, begins his enumeration of breeds, with the "Chittagong fowl," a "magnificent bird," he says, and of which he pretends to give a description from Richardson, and applies to it, verbatim, that writer's description of the Malay, adding that "a *species* [I make the italics] of this fowl is frequently called the 'Great Malay.'" Now the *fact* is, that Richardson, after having described the Malay, says—"This fowl is also frequently called the *Chittagong*." Many writers, as Mowbray, Dickson, and others, very properly use the terms Malay and Chittagong as synonymous—and they are usually applied to the same fowl. But the "Practical Poulterer" then goes on with the "*Grey* Chittagong," as the second breed. Then passing to the Cochin-China, the Shanghae, the "Plymouth Rock fowl," the Dorking, the Spanish, the Bolton Grey, the Black Poland, the Game, and the Bantam, he at length comes to what he calls the "Common Malay fowl." This variety he represents by a copy of the engraving of the hen given by Richardson as a representation of the Malay, and from the description of which, this "Practical Poulterer" takes the description of his Chittagong!

Of the Cochin-China fowl, Richardson's description is first given, to which is added an account of some of this "*species*," as they are called, imported by G. P. Burnham, of Roxbury, Mass. His next variety is the "Shanghae fowl." These and the Cochin-Chinas, it is said, are often confounded. And why should they not be? This writer himself says—"That the Cochin-China and the Shanghae fowl originate from the same country and stock, we have no question. They are very like each other, generally—and all the best specimens we have yet seen in America, resemble each other strongly." Yet he pretends to make a characteristic distinction between them, and that distinction is, merely, that the Cochin-Chinas are not feathered on the legs, and the Shanghaes are.

The humbuggery of this notion is apparent to every one who has had much experience with fowls of the Malay tribe, (*Gallus giganteus*)—whether under the name of Malay, Chittagong, Java, Cochin-China, China, Shanghae, &c.—all of which, especially when first brought from their native country, have more or less tendency to be feathered on the legs. Even those *brag* specimens of the Malay which this "Practical Poulterer" calls the "Grey Chittagong" are thus feathered. They are so represented in the cuts and so described. "The pullet," it is said, "is rather heavily feathered on the legs, the cockerel shows but few feathers below the thigh." The trait is generally less conspicuous after the fowls have been bred for several generations in Europe or in this country. This may result partly from acclimation, and partly from the general selection of such specimens for breeding as are most free from feathers on the legs—they being commonly regarded as a blemish.

There are various other things in these books which it might be well to notice, if sufficient space could with propriety be allowed in your pages; but the length to which these remarks have already been extended, obliges me to close. OBSERVER.

The Veterinary Department.

Inflammation of the Lungs in Horses.

The transportation of live-stock by railroads, has been latterly much adopted on the principal lines in this country. It is, in many cases, cheaper to convey animals in this way, besides avoiding the great loss of weight which takes place, especially in fat animals, when they are obliged to travel to market. The present season, many horses destined for sale in New-York and Boston, have been brought to Albany by Railroad from Western New-York. On reaching Albany, it has been common for them to tarry several days, in order to recruit and appear in the market in the best possible condition. Many of these horses, while stopping here, have been attacked with inflammation of the lungs, which in several cases has terminated fatally. The disease has sometimes been so violent and rapid in its progress that death has ensued within twenty-four hours. We are informed that the frequent occurrence of this disease in horses brought by railroad, has been a discouragement to that mode of conveyance. Without pretending to a particular knowledge of the circumstances, we will venture to suggest that the primary cause of the disease is the confinement of the animals in a heated and vitiated atmosphere in the cars. Their sudden transfer to the open air, or to an atmosphere of much lower temperature, produces the effect so well described by Youatt. "The discharge from the skin is at once arrested, and the revulsion, or pernicious effect of the sudden stoppage of a natural evacuation, falls on the lungs, too much weakened and disposed to inflammation by heated air and poisonous fumes." The first difficulty is probably accelerated in many instances by overfeeding, and want of exercise.

As a prevention of the disease, the better accommodation of the horses in their railroad transit, should be the first object. The next should be to feed moderately, using constant care in regard to the protection of the animal from the effects of changes of temperature, giving daily exercise, with good grooming. Should the evacuations from the bowels indicate constipation, the administration of simple cathartics will be safe. A dose of Epsom or Glauber's salts—half a pound to a pound, according to the symptoms—may be given. But in a disease of so important a character, it will be safest, when it makes its appearance, to entrust the animal to the care of a skillful veterinarian.

Ringbone.

Eds. Cultivator—In a preceding number of *The Cultivator*, I discover a number of communications on the subject of ringbone in horses. I have been in the habit for the last fifteen years, of operating on horses for this complaint, which has caused me to notice what kind of horses are most afflicted with it, and I find those that are the longest jointed are the most numerous subjects. Seldom do I see one on a French horse, and never, with but one exception, on a mule. Hence the careful necessity of attending to this particular point in breeding.

The causes of ringbone are numerous; such as standing on a hard floor, running in the pasture, leaping fences, and in horses of mature age, being put to heavy loads, &c., &c. These causes produce a leakage, and the sinova, or juice of the fetlock joint issues into a bladder or spongy substance at the back part of this joint, and it is from thence conveyed by two conductors down on each side nearly to the edge of the hoof, where it becomes ossified and gradually increases until it forms what is very justly called a ringbone.

I extract this spongy substance, or bladder, taking particular care at the same time to cut the conveyors off—thus stopping the escape of the sinova.

In answer to "W." in your March number, as it respects all operations not being equally as successful, I know of no reason why they should not be, provided they were skilfully done. I know of no cases where I have operated, but what have proved equally successful under similar or like circumstances. Where the complaint has been of long standing, and as a natural consequence, the hoof has become much contracted, of course the lameness will not be cured until the hoof arrives at its natural state. If the complaint occurs in a colt, and the operation is performed as soon as the bunches are perceptible, he never will be lame at all.

But I have known many instances where the operation did no good at all, and what is still worse, entirely ruined the animal. Hence the necessity of the operation being performed by one skilled in the art. I know much prejudice exists against this mode of treating the ringbone; but I know it will effect a cure if performed rightly, as many instances attest the fact. S. G. Cone. *Unadilla, March* 15, 1850.

The Farmer's Note-Book.

Jersey or Alderney Cattle.

Eds. Cultivator—In your May number you say you are not aware that any person has imported the "Improved" Alderney cow, from Jersey. Col. Le Couteur, last year, did me the favor to select for me one of the best and highest grades of the pure Alderney breed. She certainly is a fine cow, and I would not sell her for two hundred dollars. I have also the pure Alderney stock, imported by my late friend N. Biddle, at a cost of two hundred dollars a head. My four year old bull I consider perfect. I have also, three of the pure Alderneys imported by Dr. Physick, of Germantown, with which I am as much pleased as with any of my stock, and presume I have as large a herd of Alderneys as any man in the country; and this I am satisfied with—that any one who can keep one cow, and wants good milk for the use of his family, ought to have an Alderney. R. L. Colt. *Paterson, N. J.*

We are glad to hear that Mr. Colt has introduced a cow of the improved Jersey or Alderney variety. We think it will prove a valuable dairy stock. At a meeting of the Council of the Royal Agricultural Society, in April last, Col. Le Couteur made some observations on these cattle, which are worthy of attention. He referred to the scale of points (see last No. of this paper,) for deciding the relative merits of animals. He said the system had worked well, and that during ten years he had been secretary to the Jersey Society, he had never known a case of absolute dissatisfaction. In reference to characteristics, he remarked that "the cows which had the inside of the ear tinged with a deep yellow color were invariably found to yield butter of a rich orange color, while those with ears of a lighter tint furnished butter of a correspondingly inferior quality, and of a paler hue. In the finest stock, too, the eye of the cow was soft and placid, while that of the bull was lively and full of fire. The 'action' of Jersey cattle also indicated not only their muscular power and their mode of employing it, but that general conformation and adaptation of parts which constituted excellence: a finely bred Jersey animal, Col. Le Couteur remarked, ought to walk off the ground like a race-horse."

In reference to the term Alderney, which has been applied to the cattle of the Channel Islands, he said the island of Alderney had belonged to his great-grandfather, who introduced into it great numbers of the Jersey cattle, but which, from the inferiority of the pasturage, soon deteriorated, and at the present time there was scarcely an animal in Alderney that he would think worth purchasing. He said many animals were passed off as of the true Jersey breed, such as those from Normandy and Brittany, some of which were of a black and black and white color, and very inferior to the genuine Jersey stock. The best cows of this breed, in the flush of feed in May and June, had given sixteen pounds of butter a week.

Mental Culture.

Eds. Cultivator—Time has been, when it was thought that mental cultivation in a farmer, would unfit him for the humble toils of husbandry; when it was thought unnecessary for *him* to cultivate those faculties, which alone distinguish him from the brute. And I blush for human nature, when I find many in the *present* age, who believe that intelligence is detrimental to the interests of the farmer! But, thank Heaven! I believe that these relics of a barbarous age—these mists, which during the long night of ignorance, have gathered about the human mind,—will vanish before the flood of light which is dawning upon mankind. Then will our hardy yeomanry appreciate their own strength; and then, but not till then, will others award them the respect which is their due.

Man, without mind, is lower in the scale of existence than any being which has animal life. Brutes are endowed by nature with instinct; which reason in man, renders unnecessary. But when man is destitute of reason—when the fire of intellect becomes extinct—*then* we can see how much the mind has to do in forming the man! But still there are thousands who *practically* say that mind is not necessary. Oh, what absurdity! As though there were nothing to be attained, nothing worth striving for, save a mere animal existence; to eat, sleep, then die and be forgotten.

The pleasure arising from the cultivation of our mental powers, would alone be a sufficient recompense for all our study and toil. Every faculty of our nature, when exercised in its legitimate sphere, is in itself, an inexhaustible source of enjoyment. Hence the greater the number of faculties called into action, the greater will be our means of enjoyment; hence those who cultivate only the physical powers, leaving the mind in a state of inactivity, will reap but a small portion of the happiness which they might have enjoyed, had they understood and followed the teachings of nature. And further, as every organ is strengthened by exercise, and as the pleasure derived from the action of any faculty depends upon its strength, and the facility with which it acts, so the more we cultivate our minds, the greater will be the happiness derived therefrom; and as the more we accomplish the more difficulties we overcome, the greater will be our strength; we shall thus fit ourselves for still nobler efforts, and still higher flights toward realms which science has not yet explored.

Considered in a moral point of view, the neglect of mental culture cannot appear otherwise than as the basest ingratitude. Few would treat with indifference the favors of a friend, yet how many treat the mind—the greatest gift of God, as though its only use were to minister to our animal passions! The fact that God has bestowed these faculties upon us, is a sufficient proof of our duty to cultivate them.

But the greatest complaint among farmers is, that they have no time to study. But what is the reason? Why cannot the farmer find time for mental improvement, as well as the mechanic? Alas! I fear that the chief reason will be found in the fact that it is not considered necessary; yes—knowledge is considered useless in those who form the foundation of civilized society! As well might we expect to rear a durable structure upon a foundation of *sand*, as to expect the fabric of society to rest securely upon the rotten foundation of ignorance. If knowledge is not necessary to the farmer, then certainly those who do nothing but consume the fruits of his toil, do not need it.

But a brighter day is dawning upon the human mind. The time will soon come when the farmer will possess and be content with

> "An elegant, sufficiency, content,
> Retirement, rural quiet, friendship, books,
> Ease and alternate labor, useful life,
> Progressive virtue and approving Heaven."

May Heaven speed the day when the light of truth shall illumine every mind with its heavenly radiance! Sylvanus. *East Weare, N. H.*

Shrinkage of Corn.

Eds. Cultivator—Knowing that a great difference of opinion exists among farmers as to the loss of corn by shrinkage or drying, from the time it is cribbed in the fall, till spring,—say the latter part of March, I determined to satisfy myself on this point,—at least so far as a single experiment could determine.

On the 23d of November last, the day on which we finished husking, I measured two bushels of ears in a standard bushel, as accurately as I could. I then weighed each bushel, and found the weights 43½ lbs. and 44 lbs, respectively. The number of ears, 58 in one and 60 in the other. I had one parcel shelled, and got 33½ lbs. by weight, and half a bushel and half a peck by measure, and 10 lbs. of cobs. The corn was spread in a dry airy place, where it remained till a few days since, when it had lost just half a peck, or 20 per cent. by measure, and a fraction over 3 lbs. or 10 per cent. in weight.

This shows a difference of 10 per cent. between the loss by weight and measure. How is this difference to be accounted for? Is it owing to the minute division of the water in the corn, that while we find a loss in weight that should occupy a space less than three pints, there is an actual loss of eight pints in bulk? The cobs of this parcel were accidentally destroyed; so that I was prevented from ascertaining the loss on the cob.

The other bushel of ears was kept in a dry, airy place, and shelled a few days ago, and gave just half a bushel of corn, weighing thirty and a quarter pounds. The cobs of this parcel, weighed seven and a quarter pounds.

These are the facts, as gathered from my small experiment. The corn was a variety of the white, between the Gourd-seed and Flint—a mixed variety having from ten to twenty-six rows. The corn was in good condition for housing, at the time we finished husking. N. W. McCormick. *Independence, Cecil Co., Md., March* 25, 1850.

How is it?

Eds. Cultivator—If I read them right, some agricultural chemists maintain that manures are valuable as they contain nitrogen; others say their greatest value depends on their phosphates. Prof. Norton, in his article on "Neglected Manures," Cult. for March, says the value of bones depends upon both these substances. A question or two, if you please. Many farmers, perhaps the majority, in winter and spring throw the manure from their stables and cattle hovels 'out doors,' and leave it exposed to 'rain and shine,' till wanted for use. Now how is such manure injured the most;—by the escape of the ammonia into the air, or by the washing out of the phosphates and liquid parts, by the rain? It is generally known that manure is best to be kept under cover, but *why* it is so, is not so generally understood. But when kept under cover. care must be taken, or it will heat and drive off the ammonia. What effect does this have on the value of the manure? A correspondent of *The Cultivator*, May, 1849, p. 139, says a neighbor of his spread his green manure over his yard that it might lay through the summer and *mull*. After becoming thoroughly *mulled*, would it be worth more than 20 per cent? Cannot some one enlighten the unscientific on this subject? W. L. EATON.

Stump Machines.

Agreeably to the request of a correspondent, we herewith give cuts and descriptions of two stump machines. Fig. 1 represents one that has been used extensively in Vermont and the northern part of this State. It may be made by any farmer, and can be operated with a good degree of efficiency and dispatch. The cost of the apparatus is about $100. It is said to have been invented by two brothers by the name of Manchester, of Burlington, Vt., in 1828. It is described as follows:

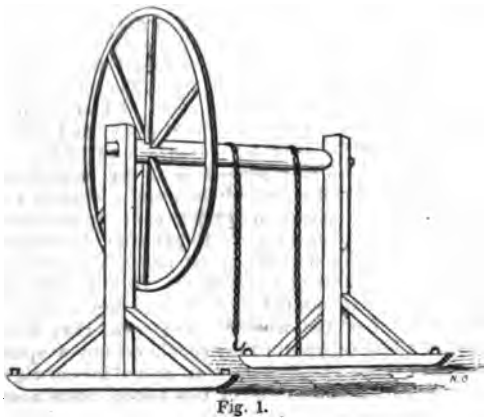

Fig. 1.

"It is simply the wheel and axle on a large scale. The uprights should be 11 feet high, 10 by 12 inches square, of hard wood. The sills 7 by 9 inches square, 14 feet long and turned up at the ends, sled runner fashion, to enable it to slide easily on the ground. Let the posts be firmly morticed into the sills, and well braced. The axle or shaft, should be white oak, ash, or maple; 18 inches in diameter, with the gudgeons 8 inches. It should be 20 feet long, and 2 pins should be driven into it, outside the posts, to keep them together. The wheel should be about 18 feet in diameter, with 8 spokes; 4 of which should go through the axle, and the other 4 set as deep as possible into the shaft without cutting away too much wood, for fear of weakening it. The spokes are to be white oak plank, 8 by 3 inches square. Let the felloes be sawed out of 4 inch plank, and planked by two courses of inch boards on the two sides, in such a manner as to "break joints," (as the phrase is,) with the first set; thus, and at the same time, to form a groove to keep the rope from slipping off. Then get two strong chains made of 1¼ inch iron, and 12 feet long each. Fasten one end of each by a strong staple to the axle, and on the other end of one have a hook, on the other a large link or ring. Then fasten one end of a 1½ inch rope on the wheel, give it two or three turns around it, and your machine is complete. Now bring your two yoke of cattle, and one assistant; hitch them to the staples, (which should be in each end of each sill,) and drive where you like. Dig a hole under the main root of the stump, (on one side if possible,) and pass your chain under it. Hitch your cattle to the end of the rope, and they will draw any stump that ever grew in the ground."

Fig. 2 represents a very powerful stump machine, invented by R. HALL, of Owego, N. Y., which received the premium and silver medal of the New-York State Agricultural Society in 1846. The following extract from a description written by GEO. J. PUMPELLY, Esq., of Owego, will give a good idea of its operation.

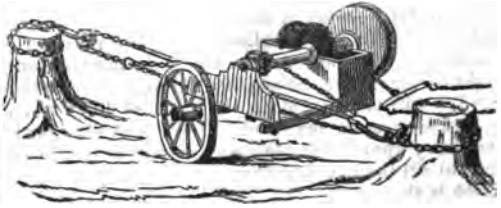

Fig. 2.

"The machine requires three men and a boy, with a small horse to work it to advantage. Its cost, with all the chains, levers, &c., is from $300 to $400.

"Upon some of our best lands in the southern counties, the Stump Machine must precede all agricultural implements but the axe. The expense is considerable, being from 15 to 25 cents per stump, but the ground is thereby thoroughly cleaned to any depth. The stumps are either made into fence or burnt; the plow and harrow do their work, the seed is sown, and the effect is like magic; the unsightly stumps are gone, and the whole field is like a garden.

"There are four or five different kinds of stump machines now in use in this county, and some of them work very well; but Hall's is the most powerful, most convenient in the application of power, and is least likely to get out of repair."

Exhibition of Works of Industry of all Nations in 1851.

The Commissioners having in charge the arrangements and management of this grand exhibition, have fixed on the first day of May, 1851, for its opening. They will be prepared to receive all articles intended for exhibition, at some place in London, to be hereafter named, on and after the first of January, 1851, and goods will be received till the first of March, after which none will be received. In the plan of the exhibition, the articles to be offered for prizes, are comprised under four general divisions, and the principles on which the prizes will be awarded, will be understood from the following extracts from a circular issued by the Commissioners:

"IN the department of RAW MATERIALS AND PRODUCE, prizes will be awarded upon a consideration of the value and importance of the article, and the superior excellence of the particular specimens exhibited; and in the case of prepared materials, coming under this head of the Exhibition, the juries will take into account the novelty and importance of the prepared product, and the superior skill and ingenuity manifested in the process of preparation.

"In the department of MACHINERY, the prizes will be given with reference to novelty in the invention, superiority in the execution, increased efficiency, or increased economy, in the use of the article exhibited. The importance, in a social or other point of view, of the purposes to which the article is to be applied, will also be taken into consideration, as will also the amount of the difficulties overcome in bringing the invention to perfection. . . . .

"In the department of MANUFACTURES, those articles will be rewarded which fulfil in the highest degree the conditions specified in the sectional list already published, viz.:—Increased usefulness, such as permanency in dyes, improved forms and arrangements in articles of utility, &c. Superior quality, or superior skill in workmanship. New use of known materials. Use of new materials. New combinations of materials, as in metals and pottery. Beauty of design in formor color, or both, with reference to utility. Cheapness, relatively to excellence of production.

"In the department of SCULPTURE, MODELS, AND THE PLASTIC ART, the rewards will have reference to the beauty and originality of the specimens exhibited, to improvements in the processes of production, to the application of art to manufactures, and, in the case of models, to the interest attaching to the subject they represent."

All articles of foreign growth or manufacture, it is stated, must come under the charge and sanction of the "Central Authority of the country of which they are the produce;" and that "it will rest with the Central Authority in each country to decide upon the merits of the several articles presented for exhibition, and to take care that those which are sent are such as will fairly represent the industry of their fellow countrymen."

The Executive Committee of the N. Y. State Ag. Society, have requested the President of the United States to designate a Commission to take charge of such articles as may be sent from the different states. Information has been given that the space on the ground of the exhibition, allotted to this country, is 80,000 square feet, one half of which will be required for alleys, and the other half will be devoted to articles for exhibition. We shall give further particulars in regard to this exhibition, when we learn the action of the Executive of the General Government in relation to it.

Culture of Millet.

The culture of millet is chiefly recommended in this country for making hay. For this purpose, it is a good substitute for clover and the ordinary grasses. When, therefore, from any cause, a sufficiency of hay is not likely to be obtained from the latter sources, millet may be advantageously resorted to. It is a plant which will grow quite well on rather thin soils, and it grows so fast, that when it is up and well set, it is seldom much affected by drouth. In this latitude, it is commonly sown in June. Half a bushel of seed to the acre, is the usual quantity, sown broadcast and harrowed in. For the finest quality of hay, it is thought advisable to sow an additional quantity of three or four quarts of seed. The ordinary yield of crops may be put at from a ton to a ton and a half of hay to the acre.

It should be cut as soon as it is out of blossom; if it stands later, the stems are liable to become too hard to make the best of hay. In curing, it is best to put it in cocks when fairly wilted, letting it remain in this situation for twelve hours, in order that it may undergo a *sweating*, which improves the hay, both by the development of its saccharine qualities, and by doing away with its stiffness and harshness, making it soft and more agreeable to the animals.

There are several varieties of millet. That known as the German, is perhaps most common in this country. It grows, ordinarily, to the height of about three feet, with compact heads from six to nine inches in length, with yellow seed. There are some sub-varieties of this, as the white and purple seeded.

The Italian millet is larger than the preceding, reaching the height of four feet, in tolerable soil, and its leaves are correspondingly larger and thicker. The heads are sometimes a foot or more in length, are less compact than the German, being composed of several spikes, slightly branching from the main stem. It is said to derive its name from being cultivated in Italy, though its native habitat is India. It is claimed by some, that this variety will yield more seed than any other, and the seed is rather larger; but the stalk is coarser, and would probably be less relished by stock.

The seed or grain of various kinds of millet has sometimes been used, when ground into meal, for bread. The seed is also used in various European countries as a substitute for sago, for which it is considered excellent. It is also a valuable food for poultry—particularly for young chickens, which, from the smallness of the grain, can eat it readily, and it appears to be wholesome for them.

If the greatest amount of seed is desired from the crop, it is best to sow it in drills two to two and a half feet apart—using a seed drill for the purpose. This admits of the use of a small harrow or cultivator between the rows, while the plants are small, which keeps out the weeds. The crop will ripen more uniformly in this way, than broadcast, which enables the farmer to cut it when there will be the least waste. The seed shatters out very easily when it is ripe, and when the crop ripens unequally, it cannot be cut without loss; because either a portion of it will be immature, or if left till it is all ripe, the seed of the earliest falls out. It should be closely watched, and cut in just about the same stage that it is proper to cut wheat—while the grain may be crushed between the fingers. It may be cut with a grain cradle, and when dry, bound and shocked like grain; but it should be threshed out as soon as practicable, on account of its being usually much attacked by birds, many kinds of which are very fond of the seed. In particular localities, they assail the crop in such numbers, from the time it is out of the "milk," till it is harvested and carried off the field, that it is no object to attempt to ripen it.

This crop is sometimes sown in drills when it is only intended for fodder, being cut and cured in bundles, as corn-stalks are cured. It is best to pass it through a cutting-machine, before feeding it to stock; indeed, all millet hay will be fed with less waste in this way, than if fed to animals without cutting.

There is another species of plant, (*Sorghum*,) often called millet, several varieties of which have been introduced and more or less cultivated in this country. It is also popularly called Egyptian corn. It is closely allied to the broom corn, the head being similar in structure, and the seed similar, except that in most varieties of the sorghum, the outer covering does not adhere, as in broom corn. The plant bears a strong resemblance while growing, to Indian corn. There is also some resemblance in the grain, and it is extensively used as food by many oriental nations, from which circumstance it is supposed to have been confounded by some writers with the American maize, or Indian corn. A variety under the name of "African purple millet," was some years since introduced, and recommended for cultivation as a soiling crop. But we believe that this, as well as other varieties, have failed to answer the recommendations for this purpose,—at least, they possess no advantages over Indian corn, and they are now cultivated here merely as a curiosity.

Notices of Publications.

Elements of Scientific Agriculture, or the connection between Science and the art of Practical Farming: a Prize Essay of the New-York State Agricultural Society. By John P. Norton, Professor of Scientific Agriculture in Yale College. Albany: Erastus H. Pease & Company. 1850.

The design of this work, in the language of the author, is to "clearly and distinctly explain the great principles that are involved in the applications of science to agriculture." In reference to the manner in which this design has been carried out, we cannot better express our own views than by the adoption of the language of the committee by whom the examination of the essay was made and the prize of $100 awarded:—"As a work of science, it embodies every principle and fundamental feature of Agriculture which has been developed to this period, and having the stamp of truth arrayed in simple yet perspicuous language, it would seem expedient that no effort should be spared to carry this work to the home of every man, whether directly or remotely connected with the pursuit of Agriculture. Until science shall unfold to us other facts, and further developments of nature's laws, this work should be the elementary text-book for every person who studies the cultivation of the earth; it should form a prominent object in every school-district in the state, and be strong alike in the affections of teacher and pupil."

The committee closed their report by recommending that the work be adopted by the publishers of books for the school-district libraries. The Executive Committee of the State Agricultural Society, have also passed a resolution authorising the printing of one thousand copies at the expense of the Society, to be awarded as premiums. We are confident the work will meet with a ready demand, and that it will be read and studied with great satisfaction and advantage by all who are interested in the principles of agriculture.

The Advocate of Veterinary Reform, and Outlines of Anatomy and Physiology of the Horse; containing also a Veterinary Dictionary; by G. H. Dadd, M. D., Boston.

The principal object of the first division of this work, appears to be to produce what the writer calls "reform," in the treatment of the diseases of animals. This reform is to consist, mainly, in the abandonment of "destructive agents," so called—in other words, blood-letting, and poisonous substances. As a substitute for this, the work under consideration advocates a system which seems to contemplate rather the prevention than the cure of disease. The directions in reference to this point are, in the main, such as would be approved by persons acquainted with the subject. We agree to the old adage that "an ounce of prevention is worth a pound of cure;" still, with the strictest observance of this rule, we apprehend animals will sometimes be sick, and in such cases it will be necessary to adopt the best means for relief and cure. It is impossible to say what these are, under all circumstances; but the propriety of restricting the catalogue of medicines to those wholly of a "botanic" origin, (whether poisonous or harmless,) will probably be doubted by many successful practitioners, whose opportunities for observation and the acquirement of knowledge in the veterinary art, have been neither few nor small. The same remark may be made in reference to the rejection of the lancet, in the treatment of disease. It is not our present purpose, however, to make decisions where "doctors disagree." Dr. Dadd's book contains much that is valuable *beyond controversy*. It is handsomely printed and bound, and comprises upwards of three hundred pages.

The Farmer's Guide.—We have received the second number of this work, which we take occasion again to recommend. The single chapter on Meteorology, which is completed in the second number, is more than worth the price of the whole work. We will remark in reference to its change of title from "The Book of the Farm," that we are authorized to say that such change has been made with the full understanding and consent of Mr. Stephens, and the Edinburgh publishers.

The Poultry Book: A Treatise on Breeding and General Management of Fowls; with numerous Original Descriptions and Portraits from life. By John C. Bennett. Boston: Phillips, Sampson & Company.

This is a work of 310 pages, 12mo., printed and bound, in excellent style, and in general execution is superior to any work of the kind which has appeared in this country. It will probably have an extensive sale.

The Family Kitchen Gardener; containing plain and accurate descriptions of all the different species and varieties of culinary vegetables; with their botancal, English, French, and German names, alphabetically arranged, and the best mode of cultivating them in the garden or under glass; with a description of implements and medicinal herbs in general use; all descriptions and characters of the most select fruits, the management, propagation, ect., illustrated with twenty-five engravings; by Bobere Buist. New-York: C. M. Saxton.

This is a well-known, standard work, which has passed through several editions. The present edition is handsomely printed, and makes in all respects a creditable appearance. We can safely recommend the work to all who wish information on the subjects of which it treats.

The American Bird Fancier; considered with reference to the breeding, rearing, feeding, management, and peculiarities of cage and house birds; with remarks on their diseases and remedies; drawn from authentic sources and personal observation; by D. J. Browne. New-York: C. M. Saxton.

This is a neat little volume, copied chiefly from various European authors. It is "got up" in beautiful style—the type and the illustrations being of the very best character—and from a glance at the contents, we presume they will be found useful to those persons for whom they are designed.

Song of the Plowman.

See, the morning breaks away,
  Waken plowman to your toil;
From early dawn to gloamin' grey,
  Guide the plow and till the soil.

Draw the furrow wide and deep,
  Scatter widely—never spare;
Let the harrow o'er it sweep—
  The faith of future bread is there.

Nature now her aid is bringing,
  Green the dewy blade is springing;
Hear the lark above it singing—
  The faith of future bread is there.

The vernal sun all brightly glows,
  Diffusing life and joy around;
The genial showers so mildly flow,
  Imparting freshness to the ground.

Cattle on the lea are feeding,
  Fleecy flocks the hills adorning;
Beauteous flowers their blossoms spreading,
  Charm the eye and cheer the mind.—*Selected.*

Notes for the Month.

Communications have been received, since our last, from E. J. Genet, A Farmer's Wife, W. L. Eaton, Hon. F. Holbrook, Prof. J. P. Norton, Observer, J. A. H. Ellis, M. H., A Gleaner, Norfolk, H. L. Brown, *, S. P. Rollo, A. W. P., A Connecticut Farmer.

Books, Pamphlets, &c., have been received as follows:

Elements of Scientific Agriculture: by Prof. J. P. Norton, of Yale College. From E. H. Pease & Co., publishers, Albany—price 75 cents.
The Poultry Book: by J. C. Bennett, M. D. From the publishers, Phillips, Sampson & Co., Boston—price 75 cents.
The Story of a Family: by the author of the "Maiden Aunt." From E. C. Little & Co., Albany—price 50 cents.
The Family Kitchen Gardener: by Robert Buist. From the publisher, C. M. Saxton, New-York.
An Introduction to the Water Cure: by T. L. Nichols, M. D.,—(price 12½ cents,) and
Thoughts on Domestic Life: by Nelson Sizer, (price 12½ cents,) from the publishers, Fowlers & Wells, New-York.
A choice collection of Ornamental Plants, from A. J. Downing, Esq., Newburgh.
A bundle of Apple Trees, containing over thirty of the best varieties, from J. J. Thomas, Macedon.
Seeds of the "Round Borneo" Citron Melon, which took the first prize at the last annual exhibition of the Penn. Hort. Society, from Thomas Hancock, Ashton Nurseries, Burlington, N. J.

The American Fruit Culturist.—Copies of this work were sent by mail, the last week in March, to all our Agents who were entitled to it, by having sent us fifteen subscribers and $10. We regret to learn, as we do from various letters, that many of those to whom it was sent, have failed to receive it. Upon inquiry, we have ascertained that many copies of it have been detained in the Philadelphia post-office, for some cause to us unknown. We shall endeavor to ascertain the cause, and have them forwarded as soon as possible.

Trial of Plows.—The trial of plows under the direction of N. Y. State Ag. Society, as noticed in our April number, is to commence on the 4th inst. A piece of ground, which will afford a fair field for the contest, has been selected in Greenbush. We understand that a large number of entries have been made, and there is every prospect that the occasion will be one of interest.

Correction.—In the notice of a sale of stock by Mr. Vail, in our last number, a mistake occurred in regard to the name of the purchaser, which was stated to have been Mr. Humphrey. The purchase was made by Mr. Edward Belknap, of Henrietta, Jackson Co., Michigan; and consisted, as we learn, of the bull American Comet, 2¼ years old, by Meteor, at $300—the cow Esterville, (bred by Mr. Prentice, of Mount Hope, and by him sold to Mr. Vail,) at $300—cow Victoria by Wellington, $200—and two heifers at $100 each.

Patent Office Report—Part II.—This comprises the agricultural portion of the report, which has been presented to Congress, and 150,000 copies ordered printed. It was drawn up by Dr. Daniel Lee, who has submitted in connection with it, some "suggestions for the improvement of agriculture," arranged under the heads of Agricultural Education, the Ravages of Insects, Analysis of Soils and Fertilizers, Preservation of Provisions, Improvement of Domestic Animals, Distribution of Seeds, How cities exhaust the Fertility of Land, &c. Many of the suggestions, under these several heads are of an important character, and eminently worthy the attention of all who desire the promotion of this fundamental interest.

Porcelain Ware.—In our volume for 1848, we noticed the crockery ware manufactory of Messrs. Lyman & Co., Bennington, Vermont. At the time of our visit to the establishment, they had just commenced experiments in the manufacture of fine porcelain, and also a new kind of ware, both of which have, we learn, been entirely successful. The *Philadelphia Ledger* notices some of the ware, which has been exhibited in that city, which is said to equal in beauty and quality, the best china or porcelain known. In addition to the qualities of strength, durability and beauty, it is said to be afforded at lower prices than similar articles of clay ware. Its uses are not confined to the usual crockery ware, but the inventors make from it door-knobs, daguerreotype frames, fancy brackets, letters for signboards, figures for numbering, and almost everything of the sort.

Sale of Mr. Sheafe's Short-Horns.—By the advertisement of Mr. Allen, in this number, it will be seen that this herd will be sold at public auction on the 29th of August next. The occasion will furnish a good opportunity for the purchase of good stock of this breed. Several of the animals, which we have seen at Mr. Sheafe's farm, are of superior quality, especially for the dairy. The bull Exeter we have not seen, but are assured by competent judges, that he is an animal of rare excellence.

Transmutation.—We have another article from "A Gleaner," on this subject, which he particularly desires to have published. Could any good arise from its publication, we would cheerfully comply with his request, long as the article is. We are certain, however,—just as certain as we are that no one in these days can perform a miracle,—that our correspondent is deceived as to what he supposes to be a fact. He asserts that, in his boyhood, "a ten acre field was sown with wheat—that it came up, and looked extremely promising, both in the fall and spring," and that "*this entire field yielded chess-heads with wheat stalks.*" He *saw* this himself, and consequently thinks he *cannot* be mistaken; and yet, and we say it with all proper respect, we should just as soon have credited the statement if he had said that the wheat-stalks bore Indian corn, with potatoes at the roots. The one is just as likely, in our opinion, to have occurred, as the other.

Great Plowing Match in Canada.—A plowing match for a prize of $400, took place near Thornhill, C. W., on the third of May last. The competition was between the townships of Vaughan and Scarboro—twenty plowmen being selected on each side. The match created great interest, and four thousand persons are said to have attended the trial, among whom was the Governor General, Lord Elgin. The contest was so close, that much difficulty attended the decision; but the prize was finally awarded to Scarboro.

Short-Horn Bull Locomotive.—In reference to the inquiry in regard to this bull, published in our last, we have received a letter from Dr. Martin, of Kentucky, stating that he is dead.

The Curassow.—We learn from the *Southern Cultivator* that John W. Boddie, of Oak Ridge, Ga., has procured from South America a pair of curassows, which are so well domesticated that he keeps them in his poultry yard. We are informed, also, that R. L. Colt, Esq., of Patterson, N. J., has specimens of some of the curassow family. It is a bird nearly equalling the turkey in size, and its flesh is said to be of excellent quality. It has been domesticated in several instances in Europe, and we hope its introduction to our own country, may be the means of adding it permantly to our list of domestic birds.

CLOD CRUSHER.—ROBERT CHISOLM, Esq., of Beaufort, S. C., writes—"Since I wrote you last I had one of the clod crushers I alluded to, made and tried on very stiff clay-swamp land, where in consequence of the roots and its roughness, I could not use any harrow; and was quite pleased with its working. It will require four oxen or horses to draw it, but I think it cheaply worked even at that, and a light harrow after it would put the land in excellent order for sowing any of the small grains."

A. W. P.—We notice your advice in regard to the publication of "*foolish* articles," but to us it appears as "foolish" to *ask* how to prevent hens from *scratching*, as to *tell* how to prevent them from *sitting*.

VEGETABLE CUTTER.—We have seen a machine for cutting vegetables, invented by WILLIS AVERY, of Salisbury Centre, N. Y. It is in some respects different from any which has before come to our notice. It is made of different sizes, according to the usses required. A small size is adapted to cutting potatoes into slices suitable for frying, &c. It it sold at $5. It can be regulated to cut the pieces of any thickness, and does its work perfectly. A larger size is adapted to cutting all kinds of vegetables for stock, and is sold at $8. This size, it is said, will cut a bushel in two minutes.

Answers to Correspondents.

CULTIVATION OF THE CRANBERRY.—L. H. H., St. Lawrence county, N. Y. The best directions we have seen on this subject, were given in our volume for 1847, p. 34.

BONE-DUST AND LIME.—S. P. R., Stephentown, We presume the application of bones, and perhaps lime, also, would benefit your land; but the actual profits arising from the use of either, in any particular case, can only be determined by an experiment in which they should be compared with other manures.

STONE AND WOODEN DRAINS.—B. McS., Virginia. Covered drains of boards and scantling will answer a very good purpose, and in a clayey soil, will last many years. Drains of stone are often made, and will *draw* if well constructed, and well covered with turf, so that the earth cannot wash in. Stones broken to the size of a hen's egg are considered best; but those of two or three pounds weight are sometimes used. Tiles, are, however, considered more effectual than any other article for drains. See May No. of the current vol. *Cultivator*, pp. 163, 164, and vol. for 1849, pp. 174 to 176.

TO PREVENT THE SCRATCHING OF HENS.—A. W. P., Rye, N. Y. If grain is soaked in a solution of copperas, or in urine, or is coated with tar, as is mentioned in regard to corn, in our April and May Nos., fowls will not eat it, and will soon get tired of scratching for it. Fowls may be prevented from scratching in various ways. They may be fettered by a string or strip of leather fastened to their legs so as to allow them to waddle about, but not permitting sufficient stretch of the legs to scratch much; or a piece of cloth, or thin pliable leather, may be tied over each foot and around the leg. We have seen the nail of the longest toe broken off with a hammer, which entirely prevents the fowl from scratching while it remains sore, and is, to some extent, a prevention afterwards; but it is too barbarous to be recommended.

Prices of Agricultural Products.

ALBANY, MAY 20, 1850.

[*Review of the Market for the last month.*]

FLOUR.—During the past month there has been a good demand for flour, with considerable fluctuation in quotations. The market, at the close of last month became gradually firmer, and prices continued to advance steadily until the 8th or 10th instant, (mainly induced by the difficulties in the navigation of the canal,) when the price fell off and the large receipts caused a dull market. These receipts having been worked off, the market within a day or two has again advanced and quotations mark a higher figure than we have seen for several months, and the tendency of prices is to a still further improvement. The receipts by canal are now light, and the prospect of supplies from the Western States, as shown by the receipts at Buffalo, is in a measure cut off, the favorable time of the Southern Markets of Cincinnati, St. Louis, &c., drawing everything in that direction. The sales during the month have been 25,000 to 30,000 bbls., chiefly of the better grades of State and Western; the market at the close may be quoted at $5*a*$5.25 for ordinary to good State, $5.25*a*$5.37½ for favorite do., $5.37½*a*$5.62½ for mixed to straight Michigan and Ohio, $5.62½ for Pennsylvania, $5.62½*a*$5.81¼ for pure Genesee, $5.87½*a*$6 for fancy Genesee and Ohio, and $6.12½*a*$6.37½ for extras.

GRAIN.—There has been a good milling demand for prime wheat, but the receipts have checked operations; the sales have only been of prime Genesee, which rateably commands higher figures than flour; the sales add 9,000 bushels at 131*a*134c., closing firm at the higher figure, with an upward tendency. The only sale of Canal Rye reported was a lot of 2,000 bushels at 56½c. 56lbs. In Barley, there has been a fair business done, though the greater portion of the receipts by canal had been sold to arrive; the sales reported were about 10,000 bushels, four-rowed chiefly, at 68*a*69c., closing at 65*a*66c., and 18,000 do., two-rowed chiefly, at 68*a*70c., and closing at 64*a*65c.; some lots which were held above the views of buyers, and shipped to N. Y., have been purchased there on Albany account, at low figures; the season is now over. Oats have been in active demand, exceeding the supply, which is very good, and prices have steadily advanced; the sales reported have been 54,000 to 55,000 bushels canal, at prices ranging from 42½*a*44½c., closing fairly at the higher figure. Corn has been in brisk demand, and the market since the opening of the canal, has had a gradually improving tendency; an active demand both for the home trade and for shipment, is anticipated which the gradual advance of the article abroad supports; the sales reported, of all descriptions during the month, have been about 135,000 bushels, ranging from 59*a*60½c. for Northern Yellow, 58*a*60c. for flat Yellow and high mixed, and 57*a*60c, for western mixed, closing firm at our outside figures. In malt, we noticed sales 5000 bush. at 80*a*81½c.

WHISKEY.—The light receipts have restricted sales; the transactions for the month are 740 to 750 brls., closing at 23½c., 23¾ for S. P., and including a small parcel Ohio brls. at 23c.

PROVISIONS.—The sales have been confined almost exclusively to cut meats; we notice one or two small parcels of Mess Pork, city packed, at $12*a*$12.50, and of Mess Beef, at $10. In cut meats, sales 60,000 to 66,000 lbs. at 9c. for smoked hams, city cured, and 7*a*7½ for western do.; 6c. for city cured shoulders, and 3c. for sour hams; we also notice a sale of 700 packages Chicago cut meats at 6c. for hams and 4c. for shoulders.

SALT.—The first cargo of salt was taken at 10c. for bags, and 106½c for barrels, to the extent of 7500 packages.

HOGS.—We notice sales of several hundred head live hogs, at 3 5-16a3½c.

SEED.—The business is closed; we have no sales of moment to report.

WOOL.—Until the new clip is received, business will be dull; the transactions during the month have been unimportant.

Prospects for the Clip of Wool of 1850.

We are indebted to a gentleman who has been for years familiar with the wool-trade, for the following article, for which we return our thanks. We are happy to inform our readers that we expect similar reports for each month.—EDS.

The depression in the wool manufacturing and wool-growing interests of the United States in 1848, caused something of gloom in regard to the market value of wool in the spring of 1849; and it was confidently anticipated in all quarters that prices would rule but little higher than in 1848, for the then approaching clip. After the shearing season was over, however, a new impulse was felt, and the prices of all grades, particularly for medium and low qualities, gradually advanced until February, 1850, when they had reached a point from 4 to 6 cents a pound higher than in February, 1849. The difference between prices in the latter year, as compared with 1848, was greater from August to January, than at the period above mentioned. This advance was caused partly by an active spirit of speculation, and partly by the brightening prospects of the manufacturing interests.

The stock of domestic wool now remaining on hand is very small, and consists chiefly of the fine Saxon grades, for which there is less demand than for the lower qualities; and prices have receded since February The stock of woolen goods in the market, both foreign and domestic, is large, the spring sales having fallen short of the expectations of both manufacturers and Merchants. The rates at which recent sales have been made are about the same as in November last, excepting for some styles of the finer fabrics, which have declined; and it is believed that the manufacturers of this description of goods are not so well remunerated for their labor, and the capital employed as those who make the medium and low qualities.

Judging from the present state of the cloth trade, and the small stock of wool remaining in market, it is supposed that the opening prices for the coming clip will be somewhat above those of last season; and that whatever advance, if any, which may follow, will not be so rapid as in 1849; and that should the supply of medium and low wools fall short of the demand, (which seems probable, should all the machinery be kept in motion,) the prices may rule nearly as high in the course of the year as they did last year. For the finest Saxon grades a similar result cannot be expected, as the supply somewhat exceeds the present demand. The prospect, however, in regard to these qualities may be changed for the better, by an advance in the prices of fine broadcloths and cassimeres, a result which is probable, though not certain.

It is believed that the clip of wool of 1850 will fully equal that of 1849—less in some sections and more in others; and that upon the whole this important branch of agricultural industry will be fairly rewarded.

Full Blood Durham Bull

FOR SALE. A white bull, 3 years old, well made. Bred by J. M. Sherwood. Price $40. R. B. HOWLAND.

Union Springs, June 1, 1850—3t.

Full Blood Berkshire Pigs.

THE subscriber offers for sale a fine lot of young Boars and Sows, at prices from $2 to $4. The boar they were raised from took the first premium at the Buffalo Fair. R. B. HOWLAND.

Union Springs, Cayuga county, June 1—1t.

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

June 1. 1850—4t.

C. M. Saxton.

120 *Fulton street, New-York*, (*up stairs.*)

HAS just published *THE FAMILY KITCHEN GARDENER*, containing plain and accurate descriptions of all the different species and varieties of Culinary Vegetables, with their Botanical, English, French and German names, alphabetically arranged, and the best mode of cultivating them in the garden or under glass, with a description of implements and medicinal herbs in general use.

Also, descriptions and characters of the most select fruits, their management, propagation, &c., illustrated with twenty-five engravings. By Robert Buist, author of the American Flower Garden Directory, Rose Manual, &c. Price 75 cents, cloth; mail edition, 50 cents. June 1—1t.

Kinderhook Wool Depot.

THIS enterprise will be continued upon the same principles as heretofore, viz:

The FLEECES will be thrown into *sorts*, according to *style* and *quality*.

A discrimination will be made between wool in good or bad condition.

All who desire it can have their clips kept separate.

Sales will invariably be made for cash.

The charges will be, for receiving, sorting and selling, one cent per pound, and the insurance, which will be 25 cents on $100 for a term of three months.

Liberal advances in cash, made on the usual terms.

Reference can be had to

Dr. J. P. BEEKMAN, Kinderhook.
B. P. JOHNSON, Albany.
T. W. OLCOTT, "
R. H. KING, "
Messrs. FREELAND, STUART & Co., N. Y. City.
Messrs. M. D. WELLMAN & CO., Massillon, O.
R. CARTER, Chicago, Ill.
Messrs. OGDEN & JONES, Chicago, Ill.
JOHN F. GILKEY, Kalamazoo, Mich.
SAMUEL PATTERSON, Washington Co., Pa.
R. A. ALLEN, Liberty, Bedford Co., Va.

DIRECTIONS FOR SHIPPING.—Sacks should be marked, "H. BLANCHARD & Co., Kinderhook, N. Y." The connections between the various transportation lines are so regular, that in ordinary cases, contracts can be made for shipping to East Albany, (opposite Albany,) if sent by the Northern route; and T. L. Green, agent for the Railroad at that place, will forward to Kinderhook. If sent by the Southern route, contracts can be made to New-York, and J. H. REDFIELD & CO., corner of Broad and South Sts., agents of the Swiftsure line of Tow-Boats, will forward to East Albany. The initials of the owner's name should be upon each sack, and an invoice forwarded to us at the time of shipment, stating the number and weight of each bale; also contract prices for shipping, if any are agreed upon.

June 1—3t.

Books for the People.

THE AMERICAN FARM BOOK, or compendium of American Agriculture, containing a concise and plainly written Exposition of duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c. &c., on practical scientific principles; by R. L. Allen. The cheapest and most valuable book for a farmer ever printed; being a complete guide, both practical and scientific, for the management of the Farm. Price $1 in cloth, 75 cents paper.

BROWNE & ALLEN'S AMERICAN POULTRY YARD.—Price $1 in cloth, gilt binding; 75 cents in paper covers. Comprising the Origin, History and Description of the Different Breeds of Domestic Poultry, with directions for their Breeding, Crossing, Rearing, Fattening and preparation for market; including specific directions for Caponising Fowls, and for the treatment of the principal Diseases to which they are subject. Drawn from authentic sources and personal observations. Illustrated by numerous engravings.

AMERICAN BIRD FANCIER—Considered with reference to the Breeding, Rearing, Feeding, Management and Peculiarities of Cage and House Birds. Illustrated with engravings, by D. J. Browne, author of the "Sylva Americana," "The Amercian Poultry Yard," &c. Price, in cloth, gilt, 50 cts.; cheap edition, 25 cts.

THE AMERICAN BEE-KEEPER'S MANUAL, Fourth edition. By T. B. Miner. Price $1, in cloth.

"The most complete work on the Bee and Bee-Keeping we have yet seen."—*N. Y. Tribune.*

THE AMERICAN ARCHITECT—Complete in 24 numbers, at 25 cents each, or $5 for 24 numbers. $6, bound in 2 vols.

DANA'S PRIZE ESSAY ON MANURES—A new and enlarged edition. Price 25 cents.

ILLUSTRATED TREATISE ON THE DISEASES OF ANIMALS—Being a History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry and Farm Dogs, by R. L. Allen. Price 75 cts. cloth, 50 cts. paper.

GUNN'S DOMESTIC MEDICINE, or Poor Man's Friend, in the hours of affliction, pain and sickness, a safe and reliable guide. Raymond's copy, price $3.

Published by C. M. SAXTON,
Agricultural Book Publisher,
June 1, 1850—1t. 120 Fulton st., New-York.

Webster's Quarto Dictionary.

WITHOUT reserve or qualification, the best extant.—*President Olin.* "Surpassed in fullness and accuracy by none in our language."—*President Wayland.* "It far excels all others in giving and defining scientific terms."—*Pres. Hitchcock.* "The standard wherever the English is spoken, it deserves to be, must be, is, and will be."—*Prof. Stowe.* "An honor to the language."—*Pres. Humphrey.* "A copiousness, perspicuity, and accuracy, not found in any other." —*Pres. Day.* "A great improvement on all which have preceded." —*Pres. Bates.* "Worthy of general patronage."—*Pres Woods.* "Most complete, accurate, and reliable of the language."—*Pres. Beecher, Pres. Larrabee, Pres. Keller, Pres. Woolsey, Pres. Blanchard, Pres. Smith, Pres. Knox, and Chancellor Frelinghuysen.*

Published by G. & C. MERRIAM, *Springfield, Mass.*, and for sale by Booksellers generally. June 1.—1t.

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EMBRACING the three comprehensive and important departments which include all that is necessary or useful to be known respecting PLANTS, viz:

I. THE BOTANICAL ANALYSIS, extensive and thorough, effectually perfecting those in Botany who possess only the first principles of the science.

II. THE NATURAL HISTORY, more particularly adapted for the general reader, and embracing the cultivation and propagation of *plants.*

III. THE CHEMICAL AND MEDICAL PROPERTIES AND USES, showing in a popular form the importance and application of *plants* in the various diseases of the human family.

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Apply as above, per mail, and the whole of the work for 2 years, may be forwarded through the Post Office to any address in pamphlet form, (postage 30 cents.) Thus individuals may obtain the first volume, as above, on remittance of $3 (postage free,) and bind it to suit their own tastes.

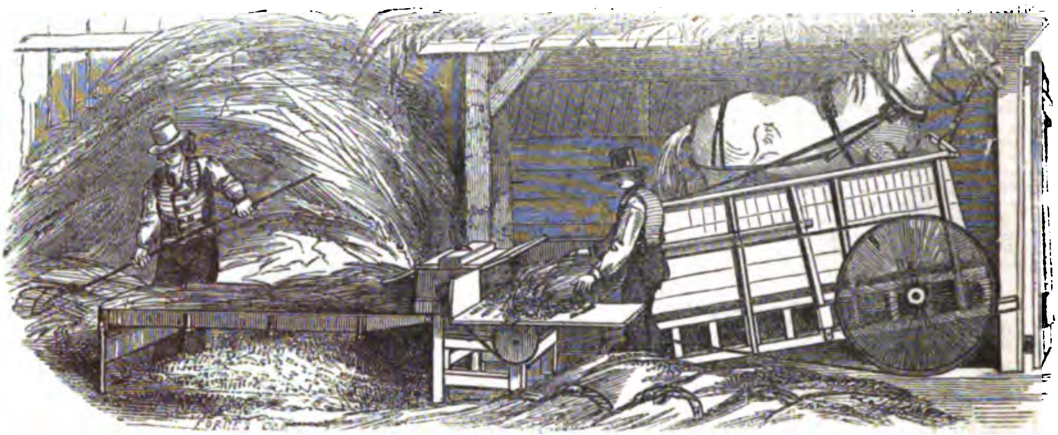
☞ The Family Flora cannot be obtained on so good terms in any other way. June 1—1t.

The Norman Horse.

THIS Thoroughbred Stallion will stand for mares the present season, on Tuesdays, Wednesdays and Thursdays, at Union Springs, Cayuga County; on Fridays at Canoga, and Saturdays at Bearytown, in Seneca County. Pasture 3 shillings per week. Mares at the risk of the owner. ROBERT B. HOWLAND.

Union Springs, June 1, 1850.—3t.

WHEELER, MELICK & CO.'S AGRICULTURAL WORKS,



THE above cut represents one of Wheeler's Single Horse Powers and Threshers, operating on a common barn floor. Inside the cover of this number of The Cultivator, its readers will find a large cut, illustrating the operation of a Double Power and Thresher. For details respecting the qualities and character of these machines, and the names and location of some of our agents, the subscribers refer to their Advertisement in the May number of The Cultivator. The article which we give below from the "Valley Farmer," published at St. Louis, State of Missouri, is but one of a large number of notices equally favorable, which have appeared in different Agricultural Papers, showing the high esteem in which these machines are held in the diferent grain producing States of the Union.

These Powers and Threshers, with a variety of other agricultural machines and implements, are manufactured by Wheeler, Melick & Co., at their Agricultural Works, Albany, and sold at Wholesale & Retail by the manufacturers, and by their Agents in the different States of the Union. WHEELER, MELICK & CO.,

Hamilton Street, corner of Liberty and Union sts.,

June 1, 1850. Albany, N. Y.

Extract from an editorial article in the Valley Farmer, for April, 1850.

"WHEELER'S HORSE POWER AND THRESHER. This machine, manufactured in Albany, N. Y., has taken the precedence wherever used, of all others. Large numbers have been sold in the East, but until very recently it has not been introduced into the west. In the May number of the Farmer, we shall publish an extended notice accompanied by an engraving. The editor of the Prairie Farmer says that with this machine, 2 horses and 4 or 5 men have done as much work, day by day, as Threshers with 8 horses and 10 men, operating along side of them.

"For several years, we have been urging the want on the part of Farmers, of a small horse power which each one could own, keep, and use with his own help, without being obliged to call on his neighbors, to assist him in getting out his grain. This implement meets that want, so far as we can judge."

Circular.

THE subscribers are making and vending J. W. SHERMAN'S

New Seed Drill and Broadcast Sower,

Constructed upon a new principle; cheaper, simpler, and more *durable and accurate*, than any similar machine now in use.

We are building three different qualities of these machines. No. 1, is a superior Drill and Broadcast Sower, and will sow fine Manure (such as Plaster, Ashes, Guano, &c.,) *Broadcast*, or in the drill rows, any desirable quantity per acre, at the same time of drilling in the grain. It is well finished, substantially made, of good material, and *warranted*—at the low price of $65.

No. 2. is built for drilling all kinds of grain. It will also sow fine manure, broadcast, on crops. Price $55.

No. 3, is a plain Wheat Drill; simple, accurate, substantial. Price $45. *None of our machines will clog in the runs*; they cannot do so with the most difficult kind of seed; THE DISTRIBUTING PRINCIPLE BEING ENTIRELY NEW.

We are prepared to supply all orders. Those wishing to purchase drills, would do well to see ours before purchasing elsewhere. The sooner the order is given, the more sure you will be of getting your Drill in time.

N. B.—Persons wishing to make or sell our Drills, are offered a good chance.

A large descriptive bill will soon be issued with cuts. All communications or inquiries [post paid,] will receive prompt attention. Address Sherman, Foster & Co., Palmyra, Wayne county, N. Y. Those wishing it, can see the machines at Foster, Jessup & Co's Machine shop, Palmyra; where they will also find the best Thresher and Separator, Revolving Horse-rake, (spring teeth,) wheel Cultivators, and other agricultural implements; warranted superior. *Call and see.*

Mr. SHERMAN is agent for the sale of McCormick's Virginia Reaper. SHERMAN, FOSTER & CO.

Palmyra, June 1, 1850—2t.

Great Sale of Short Horn Cattle.

THE subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Duchess Co., New York, about 35 head of Short horn cattle, including cows, heifers and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day, and made 15 pounds 3 ounces of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, who will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Short horns —was calved in June, 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,) out of Jessamine, by Commodore, (3,452)—Flora, by Belvidere, (1,706) —Jessey, by Belvidere, (1,706)—Cherry by Waterloo, (2,816) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first rate judge of Short horn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow red, which is a bright red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees, without any alloy or Galloway blood, back to pure Shorthorns, for upwards of *two hundred years*; a matter of no small consideration to those who wish a *superior fresh cross*.

Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

Southdown Sheep.—A choice flock of this superior breed of mutton sheep, will be sold on the same day as above.

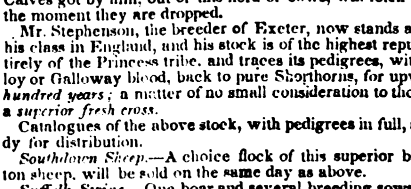
Suffolk Swine.—One boar and several breeding sows and pigs, of this fine breed of swine.

Working Oxen.—A handsome pair of red working oxen.

A. B. ALLEN, 189 Water st., New-York.

June 1, 1850—3t.

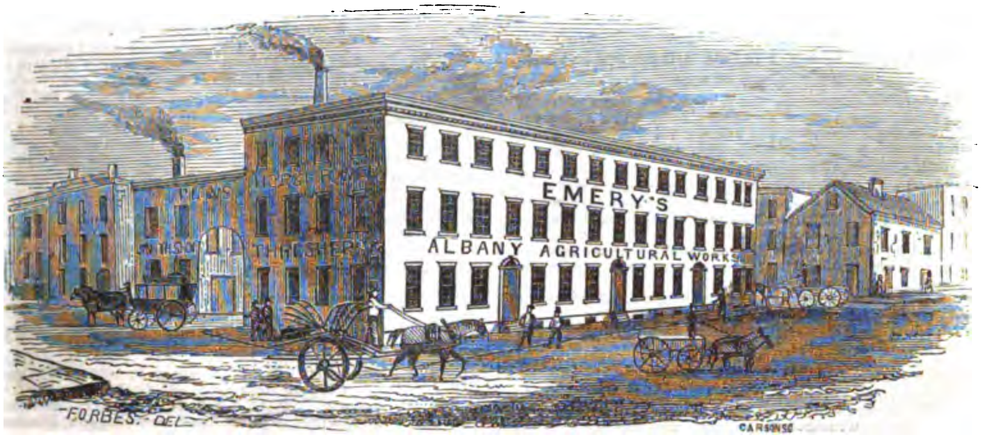
Dunn's Scythes.



GRASS, Grain, & other scythes from the celebrated Nor. Wayne Scythe Co., late R. B. Dunn's.

Having sold these scythes for several years with uniform good success—(not one in a hundred having failed and been returned)—he does not hesitate to recommend them as equal if not the best in use. For sale by H. L. EMERY,

June 1, 1850. Nos. 369 & 371 Broadway, Albany, N. Y.



PATENT RAILROAD HORSE POWERS, AND OVERSHOT THRESHERS & SEPARATORS.

With recent important improvements. Manufactured at the AGRICULTURAL WORKS, and sold, wholesale and retail, at the AGRICULTURAL WAREHOUSE AND SEED STORE OF HORACE L. EMERY,

Nos. 369 & 371 Broadway, Alban , N. Y.

THE Subscriber has at great expense of time and money done much to introduce these machines throughout the country generally, and with such success that he is fully satisfied of their superiority over every other kind of Threshing Machinery in use, with which he is acquainted.

Probably no other machines yet invented have met with so rapid an introduction, gone so extensively into use, or given such universal and uniform satisfaction.

The rapidly increasing demand has induced him to erect during the past years, (1848—1849,) a spacious manufactory in this city, to facilitate the manufacturing, and better supply the wants of the farming community.

These increased facilities, together with his extensive Ware rooms, and complete assortment of every desirable article of Implement or Seeds wanted by the farmer, enable him to offer great inducements to the public to purchase their supplies of and through him, whether for their own use or to sell again.

Particular attention is called to the RAILROAD HORSE POWER, & OVERSHOT THRESHING MACHINES & SEPARATORS, as recently improved, by which the application of power is applied from the Endless Platform to the shaft of the driving band wheel, in such a manner as to *remove* the liability of *breaking of links and wearing of the small wheels*, and the slipping and wearing of the links and pinions in consequence, is *wholly avoided*. Greater Strength, Durability, and Lighter Friction are secured. All of which being important points not before attained in these machines.

They are comparatively light and portable—the One Horse Power, complete, weighing about 1100 pounds; the Two Horse Power, complete, weighing about 1900 pounds. When they are to be often removed, an axle and wheels are attached, forming of itself a wagon. When in use, one pair of wheels are removed.

They are operated by the weight of the horse or horses, at an elevation of about one and a-half to two inches to the foot, or 16 to 22 inches, according to the weight of the horses.

Three men, with the one Horse Power and a change of horses twice a day can readily thresh from 75 to 100 bushels wheat or rye; or four men, with a Two Horse Power, with the same team, can thrash from 150 to 200 bushels wheat or rye, or double that quantity of oats or buckwheat per day.

All can be operated inside of barns, in stormy weather, when men and teams could do little else to advantage.

The Thresher is Overshot, and is driven without any crossing of bands. The feeder stands erect and is not annoyed with dust. There is no liability of accident from the spikes, &c.—as no hard substances can injure or break them. A Separator is attached to all the Threshers, and answers an admirable purpose for separating the straw from the grain, leaving it with the fine chaff, fit for the Fanning Mill.

They have been exhibited in operation by the subscriber during the past three years, at all the principal State and County Fairs of New-York, Massachusetts, Ohio and Canadas, and been extensively introduced and used among the farmers of those states, and Vermont, Rhode Island, Connecticut, Virginia, North Carolina, Tennessee, Indiana, Illinois, Missouri, Iowa, Wisconsin and Michigan.

The First Premiums of the Societies have been awarded them, and the highest ecomiums of committees and farmers have been bestowed upon them for their SIMPLICITY, EFFICIENCY, UTILITY, DURABILITY and CHEAPNESS.

They can be taken in pieces and packed very compactly, and forwarded to any part of the country, by railroad, canal or steamboats.

He has efficient agents for receiving and forwarding machines in all the principal towns and cities in the states of New-York, Michigan, Indiana, Illinois, Iowa. Wisconsin, Ohio, Kentucky, Missouri, Vermont, &c.; and all machines delivered on board boats, cars, &c., and freights always contracted for at the lowest rates, and shipping bills made out and forwarded, without extra charge for same, insuring speed, safety, and reasonable charges for transportation.

Terms CASH, or approved notes, or city acceptances, at thirty, sixty, or ninety days, with interest.

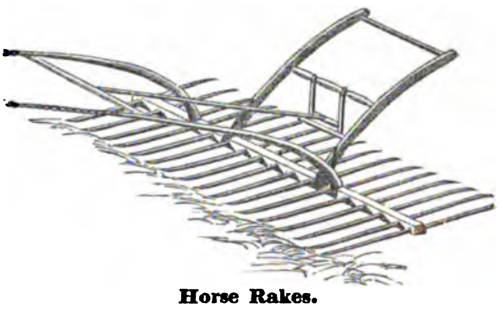
They are warranted to operate as represented, or may be returned to the subscriber or his agents, of whom they have been purchased, within three months, and purchase money refunded.

For further particulars, see Catalogue of Albany Agricultural Warehouse and Seed Store, Agricultural Papers, and Reports of Agricultural Societies, &c., &c., or by addressing the subscriber, postage paid.

A liberal discount allowed to those persons ordering and selling the machines in their vicinity, and agents wanted to sell and put them in operation, where not introduced.

Having had long experience in the manufacture and sale of agricultural machinery, he feels assured the public will hazard nothing in purchasing their Agricultural Implements and Machinery of and through him. For the satisfaction of those unacquainted with him, and his manner of doing business, he would refer them to the following gentlemen:

LUTHER TUCKER, Ed. and Pub. Albany Cultivator, and Treasurer N. Y. State Ag. Society, Albany.
SANFORD HOWARD, Associate Editor Albany Cultivator, Albany.
E. P. PRENTICE, Esq., President N. Y. S. A. S., Albany, N. Y.
GEORGE VAIL, Esq., Ex. Presd't do do Troy, N. Y.
A. VAN BERGEN, Esq. do do do Coxsackie, N. Y.
J. M. SHERWOOD, Esq., do do do Auburn, N. Y.
B. P. JOHNSON, Esq., do and present Secretary N. Y. S. A. S.
J. McD. McINTYRE, Rec. Sec. N. Y. S. A. S., Albany, N. Y.
D. D. T. MOORE, Esq., former Ed. and Pub. Gen. Far., and present Ed. and Pub. of Rural New-Yorker, Rochester.
JAS. VICK, Esq., Ed. and Pub. Gen. Far., Rochester.
J. A. WIGHT, Esq., Ed. of Prairie Farmer, Chicago, Ill.
C. N. BEMENT, Esq., late Ed. and Pub. Am. Jour. of Ag., Albany.
RUGGLES, NOURSE & MASON, Manufacturers and Dealers in Ag. Implements, Worcester and Boston, Mass.
JOHN MAYHER & Co., Dealer in Ag. Implements, New York.



Horse Rakes.

WILCOX, Downers, and other approved Revolving Horse Rakes, light, strong and durable. Several hundreds were sold the past season, with fullest satisfaction to the purchasers. Dealers in the article can be supplied on liberal terms.

FENCE WIRE. All sizes and qualities, suitable for fences, for sale low.

CULTIVATORS, and Double Mould Board Plows, of various sizes, for cultivating and hilling Corn, Potatoes, &c.

Albany Agricultural Warehouse,
Nos. 369 & 371 Broadway.

June 1, 1850. H. L. EMERY.

JUST PUBLISHED,

BY DERBY, MILLER AND CO., AUBURN,

THE AMERICAN FRUIT CULTURIST,

BY J. J. THOMAS,

CONTAINING directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the principal American and Foreign Varieties cultivated in the United States. With 300 accurate illustrations. One volume of over 400 pages, 12 mo. Price $1.

A cheaper, but equally valuable book with Downing's was wanted by the great mass. Just such a work has Mr. Thomas given us We consider it an invaluable addition to our agricultural libraries. *Wool Grower.*

We predict for it a very rapid sale; it should be in the hands of every fruit grower, and especially every nurseryman. It is a very cheap book for its price.—*Ohio Cultivator.*

It is a most valuable work to all engaged in the culture oi fruit trees.—*Utica Herald.*

It is a book of great value.—*Genesee Farmer.*

Among all the writers on fruits, we do not know of one who is Mr. Thomas' superior, if his equal, in condensing important matter. He gets right at the pith of the thing—he gives you that which you wish to know at once; stripped of all useless talk and twattle. No man has a keener eye for the best ways of doing things. Hence we always look into his writings with the assurance that we shall find something new, or some improvements on the old; and we are seldom disappointed. This book is no exception. It is *full*. There is no vacant space in it. It is like a fresh egg—all good, and packed to the shell full.—*Prairie Farmer.*

In the volume before us, we have the result of the author's experience and observations, continued with untiring perseverance for many years, in language at once concise and perspicuous.—*Albany Cult.*

For sale in New-York, by M. H. NEWMAN & CO., and C. M. SAXTON. Boston, B. B. MUSSEY & CO. Philadelphia, THOMAS, COWPERTHWAITE & CO.

⁂ Copies in paper covers sent by mail free of expense on receipt of $1, post paid. Direct to DERBY, MILLER & CO.

Auburn, April 1, 1850.—3t.

10,000 Acres of Long Island Land for Sale,

At Lake Road Station, or Irvington.

THE undersigned is, and has been for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 10,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 46 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the north and south side of this land,—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkama Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the south of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 feet deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New-York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations,—but with all the privileges and comforts of an old one. Apply to A. B. ALLEN, Esq., Editor of the *American Agriculturist*, 187 Water Street, New-York, or to E. F. PECK,

306 State Street, Brooklyn, L. I.

☞ Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there.

May 1, 1850—3t.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums. and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,

Feb. 1—6ms. JOSEPH CALDWELL

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices. Z. HOSMER,

April 1, 1850—6t. 110 Milk St., Boston.

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞ Capital $50,000! ☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*

☞ Agents solicited for all parts of the Union. May 1—2t.

No Humbug.

THE undersigned, after 20 years' experience and much research, has discovered a cheap chemical compound, easily applied, which completely prevents the ravages of the Bee-moth, and which can be adapted to each and every kind of hive, whether patent or otherwise. This discovery he will impart to any individual on the receipt of one dollar. It being understood the purchaser shall hold himself honorably pledged, not to impart the information to others. The whole contained in a circular, to which is added several valuable suggestions in the construction of hives and management of bees, worth more than any patent hive in existence.

Address, post paid, SETH WHALEN,

May 1, 1850—3t.* Ballston Spa, N. Y.

Burbank or Morgan Chief.

THIS Horse will stand the present season at the stable of the subscribers in Warren, Mondays and Thursdays: at Waitsfield, Tuesdays and Wednesdays; and at the village in Rochester, Fridays and Saturdays.

This horse was sired by the celebrated Old Woodbury Morgan, afterwards known by the name of Burbank Morgan. His dam was known by the name of Empress, and was sired by the original Justin Morgan Horse. It will therefore be seen that this horse possesses equally as much Morgan blood as either of the four Stallions sired by the Original Morgan, and more Morgan blood than any other stallion now living, except the Old Gifford, which was sired by the same horse. For further particulars, see our bills.

WRIGHT & ELDREDGE.

Warren, Washington county, Vt., May 1, 1850—2t.*

John A. Pitts,

Manufacturer of THRESHING MACHINES and DOUBLE PINION HORSE POWERS, 68 South St. Paul Street, Rochester, N. Y.

THE subscriber continues the manufacture of the celebrated "Pitt's Separator." It is the same machine that has stood, and now stands unrivalled by any machine for Threshing and Cleaning Grain, in existence. It has been exhibited at State and County Agricultural Fairs, in the United States and Canada,—always receiving the *First Premium*.

The Horse Power, for strength, ease, durability, and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two full pinions, each receiving equal power; 2 bevel wheels, driven by the full pinions, connect with two pinions, on the line shaft; thus it will be seen, this Horse Power is double the strength of any single geared Power. It may be driven with from two to ten horses, depending upon the power required.

The Machines have fully sustained all I claim for them; I therefore solicit orders from those who would secure the best Threshing Machine and Horse Power.

Please address as above. JOHN A. PITTS.

Rochester, May 1850—3t.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

BENNETT'S AMERICAN POULTRY BOOK.

The Poultry Book

And Fowl Breeders' Guide.

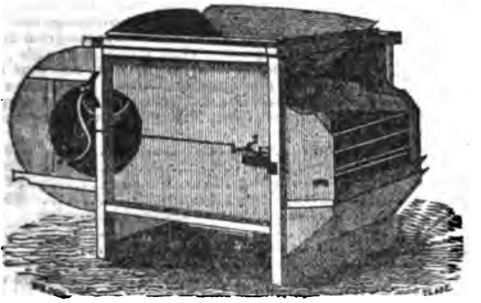
BEING a Treatise on the Breeding, Raising, and General Management of *DOMESTIC FOWLS*, with numerous original descriptions, and Portraits from Life. By John C. Bennett, M. D.

This work will be found to contain a greater amount of original and other information, both practical and useful, in regard to Fowl Breeding, than is contained in all other American works together. It will be illustrated with nearly FIFTY PORTRAITS of the most choice varieties of American and Foreign Fowls, some forty of which are from life, from drawings taken especially for this work, of the most important breeds, and several of them from Fowls very recently imported.

The publishers have spared no expense to bring out this work in a superior manner, both in regard to the engravings, the merits of the work, and the general execution of every part of the book. And it is believed that the work will be found to contain more Practical Information on *Breeding and Managing Domestic Fowls*, than any work issued in this country.

Price—in Muslin binding, 75 cts.; in Paper covers, 50 cts.

PHILLIPS, SAMPSON & CO., Publishers,
April 1—3t. 110 Washington St., Boston.



I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."

Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.

Junction P. O., Rens. Co., 8 miles north of Troy
May 1, 1850—tf.

Morgan Horse Black-Hawk.

THIS well-known stallion will stand for the present season at the stable of the subscribers; terms, $20 the season. The superiority of this horse as a stock-getter, is becoming more and more highly estimated, as his progeny increase, and their powers as fast trotters and durable roadsters are demonstrated. For particulars, see large bills. D. & D. E. HILL.

Bridport, Vt., April 1.—3t.

Sir Charles.

THIS fine young horse, owned by Titcomb & Waldron, of Waterford, N. Y., will be kept this season by Philip R. Argotsinger, one mile from Johnstown, Fulton county, N. Y. He was got by Morse's Grey, dam a Messenger mare.

May 1, 1850—2t.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,
Walpole, May 1—5t.* Agent for the Proprietors.

The Thorough-bred Imported Horse Leopard,

BRED by the Duke of Bedford, is pronounced by the best judges in Canada and the States, as being superior to any blood horse ever imported from England. This horse will stand for mares at J. LAPHAM'S. For pedigree, &c., &c., see English Stud book, and the Racing Calendar for 1846—also, advertisement in *The Cultivator* for 1859.

Terms $7 service, $10 season, $15 insurance

Peru, Clinton Co., May 1, 1850—2t. O. K. LAPHAM & CO.

The Imported Thorough-bred Horse

CONSTERNATION, will stand for mares the coming season, at the farm of the subscriber, near the city of Syracuse.

Terms.—Five dollars in advance, and five dollars additional if the mare is got in foal. Mares left with the subscriber during the season, or until he consents that they shall return, will be insured for $10. Pasture 3 shillings per week. No mare taken except at the risk of the owner. J. B. BURNET.

April 1, 1850.—3t.

The Morgan Horse

MAJOR GIFFORD, will stand the ensuing season on Mondays, Tuesdays and Wednesdays, at the stable of E. W. Sheldon, in Sennett. On Thursdays and Fridays, at the stable of S. B. Rowe, in Camillus, and on Saturdays, at the stable of John C. Munro, in Bellisle.

Major Gifford is seven years old this spring, his color a beautiful chestnut—was sired by the Gifford Morgan, his dam a pure Morgan. Breeders of good horses are invited to call and see him.

Terms.—Ten dollars to insure. Pasturage furnished. Accidents and escapes at risk of owners. MASON & CO.

April 1, 1850.—3t.*

Morgan Horse General Gifford.

THIS justly celerated horse will stand the coming season at Lodi Village, Seneca County, N. Y. He was got by Old Gifford Morgan, out of a pure Morgan mare. In his size, color, form and action, he closely resembles his distinguished sire, and is one of the very best specimens of this invaluable race of horses.

Terms of insurance, $12.

Good pasture provided at the usual rates, and all necessary attention given to mares from a distance.

Accidents and escapes at the risk of the owners.

May 1, 1850—3t. CHARLES W. INGERSOLL.

Morse's Grey.

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THE HORTICULTURIST,

AND

Journal of Rural Art & Rural Taste.

EDITED BY A. J. DOWNING,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

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Albany, June, 1850. *Publisher, Cultivator Office, Albany, N. Y.*

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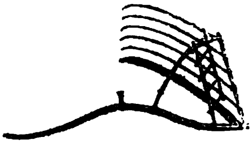

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, JULY, 1850. VOL. VII.—No. 7.

THE HAY CROP.

THE hay crop is the most important of any produced in the Northern and New-England states; but a large proportion of our farmers fail to derive the full benefit of it, from the want of proper management. Too many evince a carelessness in reference to making hay, which they would not think of allowing with grain, or any other crop of equal value. The contrast in the condition of the stock of different farmers, through the winter and spring, is very striking. The stock of one man is seen to thrive and even fatten, during the time they are kept on hay, while that of another constantly pines from the time it leaves the pastures, and in spring is poor and feeble. It is not uncommon that this difference is seen where there were equal opportunities for having good hay, and sometimes when the greatest quantity has been fed out to the herd which is in the worst condition.

The difference alluded to, arises chiefly from the quality of the hay; and the quality of the hay depends on the herbage of which it is composed, on the stage in which it is cut, and on the process of making. The amount which would be actually gained by having hay made in the best manner, would be incalculable. It is practicable to have it of such a quality, that a given quantity will produce nearly as many pounds of meat, butter or cheese, as the grass itself would have produced, if it had been eaten in a green state.

We have spoken above, of animals being fattened on hay. This is an idea, which, if generally understood and practiced upon, would be of great benefit to farmers. A few are already aware of its importance, and their practice should constitute examples for others. Many do not seem to realize that hay can be made to serve any other purpose than barely to carry their animals through the winter—to keep them from starvation. Yet they rely on grass for the chief growth of their stock, for their beef and mutton, and dairy products; apparently overlooking the fact that hay is but dried grass, and that, if the drying was effected in the most perfect manner, there would be no loss of nutrient properties.

In deciding on the course to be pursued in curing hay, we should in the first place, understand what are the properties in grass which it is wished to secure, and which afford sustenance to animals. These may be said to be chiefly starch or sugar, gum, and wax, and oil. The following extracts from the report of Dr. THOMSON, in reference to researches and experiments on the food of animals, undertaken by order of the British government, show the importance of these substances in grass, and furnish useful ideas in regard to the general subject:

"When grass first springs above the surface of the earth, the principal constituent of its blades is water, the amount of solid matter being comparatively trifling; as it rises higher into the day, the deposition of a more indurated form of carbon gradually becomes more considerable; the sugar and soluble matter at first increasing, then gradually diminishing, to give way to the deposition of woody substance.

"If, as we have endeavored to show, the sugar be an important element of the food of animals, then it should be an object with the farmer to cut grass for the purpose of haymaking at that period when the largest amount of this substance is contained in it. This is assuredly at an earlier period of its growth than when it has shot into seed, for it is then that woody matter predominates; a substance totally insoluble in water, and therefore less calculated to serve as food for animals than substances capable of assuming a soluble condition. This is the first point for consideration in the production of hay, since it ought to be the object of the farmer to preserve the hay for winter use, in the condition most resembling the grass in its highest state of perfection. The second consideration in haymaking is to dry the grass under such circumstances as to retain the soluble portion in perfect integrity.

"The great cause of the deterioration of hay, is the water which may be present, either from the incomplete removal of the natural amount of water in the grass by drying, or by the absorption of this fluid from the atmosphere. Water when existing in hay from either of these sources, will induce fermentation, a process by which one of the most important constituents of the grass, viz., the sugar, will be destroyed. The action necessary for decomposing the sugar, is induced by the presence of the albuminous matter of the grass; the elements of the sugar are made to re-act on each other in the moist state in which they exist, in consequence of the presence of the water and oil, and are converted into alcohol and carbonic acid.

"That alcohol is produced in a heated haystack, in many cases, may be detected by the similarity of the odor disengaged to that perceptible in a brewery. We use this comparison because it has been more than once suggested to us by agriculturists.

"The amount of soluble matter taken up by cold water is, according to actual trials, as much as five per cent., or a third of the whole soluble matter in hay. We may therefore form some notion of the injury liable to be produced by every shower of rain which drenches the fields during hay harvest. It is not only, however, the loss which it sustains in regard to the sugar and soluble salts, that renders hay so much less acceptable than grass to the appetite of cattle. The bleaching which it undergoes in the sun, deprives it of the only peculiarity which distinguishes the one form of fodder from the other; grass deprived of its green coloring matter, presents exactly the appearance of straw, so that hay ought to be termed grass straw. It is obvious from the experiments made, that the operation of haymaking, as usually conducted, has a tendency to remove a great proportion of the wax in the grass. Thus it was found that rye-grass contained 2.01 per cent. of wax. Now as 387½ parts of rye-grass are equivalent to 100 parts of hay, and as 387½ parts of grass contain 7.78 parts of wax, it is obvious that 100 parts of hay should contain the same amount of wax; but by experiment it was found that 200 grains of hay contained 4 grains of wax, which is equivalent to 2 per cent. almost exactly the amount contained in grass. Hence it appears that no less than 5.78 grains of wax have disappeared during the haymaking process. The whitening process which the grass undergoes in drying renders it apparent that the green coloring matter has undergone change; but that it should have been actually removed to such an extent, or at least have become insoluble in ether, is a result which could scarcely have been anticipated without actual experiment."

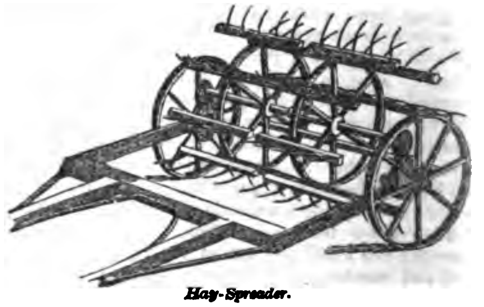
The farmer may not be able to adopt in general practice, a system of curing hay which would *entirely* prevent the loss of some of its valuable qualities; but experience proves that a system which approximates to this, is perfectly feasible in this country. The practice of all who make the best of hay, agrees as to general principles. We have alluded to the fattening of stock on hay, and in establishing a criterion for the quality of hay, we think it would be fair to estimate it in proportion to its value for this purpose. It might be objected to this, perhaps, that the properties which would most promote the secretion of fat, might not impart the greatest degree of muscular strength; but it should be remembered that severe exercise is not required of the bulk of the farmer's stock, and in reference to work horses and oxen, the requisite strengthening principle may be supplied through other food.

The finer species of grasses, such as blue-grass, (*Poa pratensis*,) red-top (*Agrostis*,) and a little sprinkling of white and red clover, produce the best hay. Timothy (*Phleum pratense*,) is in considerable repute for hay in some sections, and it makes a profitable hay for exportation, on account of its large yield, but it is less relished by stock, (except horses,) than the above kinds. It seems to be admitted by all who have had experience with hay cut at different stages, that it should be cut before it is past bloom. Dr. Thomson has well said that "it ought to be the object of the farmer to preserve the hay in the condition most resembling grass in its highest perfection," and that its point of perfection "is at an earlier period of its growth than when it has shot into seed." If it does not fall down, it should be allowed to come into full flower; but if it lodges or cripples it will soon sour, and if the crop is very heavy will rot, and the fermentation which takes place, will, more or less, destroy the roots. Hence lodged grass should always be cut without delay, except where the lodging occurs only in trifling patches, and in parts of the field not easy of access. If the grass is cut at the stage mentioned, there will be a vigorous second growth, which on rich land will afford a good autumn crop, for mowing; or it may be fed off by stock, as best suits the wants of the farmer. The early cutting also favors the permanency of the sward; the vitality of the grass is not exhausted, as it would be by the formation of seed.

The practice of the best haymakers, is to mow the grass closely to the ground; to spread the swaths evenly and lightly, as soon as the dew is fairly off, and the outside of the swath somewhat dried. Rake and cock the hay before sunset. If the weather has been fair and drying the first day, and is so the next, the curing may be so well completed in the two days that it will do to go into the barn or stack, unless there is a very large burden, or it is in a very green state. The cocks should be opened on the second day after the ground has become dried and warmed, and the hay should be thoroughly shaken and left so light and open that the air will immediately strike through it; and it will generally be necessary to turn it in the middle of the day to ensure its perfect dryness. Should the weather on the morning of the second day appear unfavorable, the hay may stand without injury till the third day; or if it should be spread out on the second day, and should fail of being sufficiently dried, it should again be put in cocks, and the drying completed the first favorable day. In putting it in the barn, an advantage may be derived by letting it remain on the wagons, when practicable, over night—especially such loads as are least dried. The partial heating which it will undergo in the load, will greatly aid its curing, and the tendency to fermentation will be broken up in unloading, by its exposure to the air, and it will afterwards remain in an unchangeable state, so long as kept dry.

Clover makes good hay if cut at the right time and rightly managed. The writer, after having tried various modes of making this kind of hay, gives the preference to making it chiefly in cocks. It can be made in this way with less expense of labor, and the hay is superior in quality to that produced by any other mode. The medium, or what is commonly called the southern clover, is the best for hay, as its stems are finer than the larger, or northern kind. It is best to cut it when the greatest number of heads are in full bloom, and as they do not all bloom at once, the first which come out will, of course, be turned before the majority will have reached that stage.

When the swaths are wilted, they may be pitched into cocks with forks, taking care to lay up the fork fulls in such a way that the hay will stand the weather, which is easily done with a little care. It may be put in such cocks as will make forty to fifty pounds each, after it is dried. If carefully put up, it may stand in this situation for several days without injury. It should be examined from day to day to see how the process of curing advances, and when its appearance and the prospect of fair weather indicate that the curing can be completed in one day, the cocks should be turned over so as to expose the bottom to the sun, and they should be lightened up a little, in order that all the dampness shall be driven off. It should be handled carefully in loading, lest the driest portion should be broken up, and the heads and leaves more or less wasted. Clover that is made in this way is not liable to heat in



Hay-Spreader.

the mow or stack, and from the leaves and heads being saved, and the whole being cured in the most perfect manner, it is much relished by all animals. When used, it is best to pass it through the cutting machine, as it can be fed with much less waste when cut up, than when distributed to stock in a long state.

The cut herewith given represents a machine for spreading hay—or what is called in England a hay-spreader. It has been used in that country for several years, and we presume would be highly useful in many sections here. It consists chiefly of a frame and wheels, resembling a low, one-horse cart; between the wheels, a set of horizontal *rakes* are made to revolve rapidly, their motion being in a direction opposite to that of the wheels. This motion is given from the wheels, through cog wheels, to the axle on which these rakes turn. It is obvious that the wheels must be attached to the frame, without any axle passing between them, as that would interfere with the motion of the rakes, the axle of which is nearly a foot higher than the hubs of the wheel. The teeth of these rakes, by their rapid motion, strike the hay in the swath, lift it upwards, and scatter it behind the machine.

The *rakes* consist of light pieces of timber, five and a-half feet long, (so as to spread two swaths at once,) to which are attached the iron teeth, which are spikes seven inches long, fastened loosely so as to swing freely, and to fall back when they strike stones or other obstructions. Centrifugal force keeps them straight at other times. In long hay, a very thin, broad cylinder, incasing the frame work which supports the rakes, is necessary to prevent clogging. As the hay frequently winds upon the hubs of the wheels, a covering upon them like the mud-protector of a carriage, would be of value.

The Reviewer.

Poultry and Poultry Books.

THE AMERICAN POULTRY-YARD; comprising the origin, history and description of the different Breeds of Poultry; with complete directions for their breeding, crossing, rearing, fattening, and preparation for market; including specific directions for Caponising Fowls, and for the treatment of the principal diseases to which they are subject; drawn from authentic sources and personal observation; illustrated with numerous engravings. By D. J. BROWNE. New-York: 1850.

THE above title informs us that the contents of the book are "drawn from authentic sources, and personal observation;" a statement which some persons may not dispute, though many readers would doubtless have been gratified if some marks or directions had been given, which should have indicated the particular parts to be credited to each of the sources named. True, Mr. Browne informs us, in his prefatory address, that—"In order that he may not be *accused of the reproach* [?] of 'strutting in borrowed plumes,' he has the candor to confess that he has made a free use of the labors of Pliny, Columella, Cuba, Aldrovandi, Mascall, Reaumur, Mowbray, Parmentier, Flourens, W. B. Dickson, J. J. Nolan, W. C. L. Martin, and Rev. E. S. Dixon, without giving them, in numerous instances, such credit as the punctilious critic would seem to demand."

From this imposing array of ancient and modern authors, the reader will doubtless be deeply impressed with the vastness of Mr. Browne's researches, and the immense labor he has incurred in thus embodying the knowledge of ages, on the subject of poultry. In the "free use" which he has made of the writings of these authors, he says he has sometimes had occasion to "change the language," in order to "*Americanize* the subject," &c., though he still claims as *original*, "much of the matter and several of the illustrations." If, under these circumstances, confusion has ensued in regard to the rightful ownership of "plumes," it has been owing to the difficulty of recognition—the heterogeneous mixture of feathers rendering it impracticable to say, in all cases, to what bird they belonged.

In his arrangement of varieties, Mr. Browne takes the serrated upright comb as the typical distinction of the genus, and as the Spanish fowl has this feature more developed than any other breed, he selects that as the general representative, placing it at the head of the list. Next to this he places the Dorking fowl. Let it be borne in mind that the *basis* of this arrangement, is the "*serrated upright comb*," and upon this basis, he ranks the Dorking fowl next to that taken as the type! The consistency of this can be judged of by those acquainted with the latter variety. Certainly, there are few breeds which have less affinity with the Spanish than the Dorking, in regard to the *comb*. Even Mr. Browne himself tells us that the Dorkings have "single, double, or *large, flat, rose-like* combs." The stock of Mr. L. F. Allen, which is referred to by Mr. Browne, has very large rose combs, in many instances, and so have many of the best Dorkings in this country, whether imported or bred here. Even the figures which Mr. Browne gives of the breed, show the double comb.

In Mr. Browne's account of the Dorking fowl, we have an example of what is probably meant by "change of language to *Americanize* the subject." In Mr. Martin's work, before referred to, is a description of this variety, as he had found it in a visit personally made to Dorking. The following extracts, placed in juxtaposition, show with how *little* "change of language" Mr. Browne was in this instance, enabled to "Americanize his subject:"

Extract from Mr. Martin.	*Extract from Mr. Browne.*
"During a recent visit of some weeks to Dorking, though we visited the market regularly, and explored the country round, on one or two occasions only did we meet with pure white birds. In all however, more or less white prevailed; but the cloudings and markings of the plumage were unlimited. Many were, as we observed, marked with bands or bars of ashy gray, running into each other at their paler margins. Some had the hackles of the neck white with a tinge of yellow, and the body of a darker or brownish red color, intermixed irregularly with white."	"During all my rambles, in various parts of the country, only on one or two occasions did I meet with pure white birds. In all, however, as far as my knowledge extended, when pure-blooded, more or less white prevailed; but the cloudings and markings of the plumage were unlimited. Many were marked with bands or bars of ashy gray, running into each other at their paler margins. Some had the hackles of the neck white with a tinge of a darker or brownish red, intermixed irregularly with white."

The attempt to prove the great antiquity of the Dorking breed, whether white or "speckled," by reference to Pliny and Columella, will probably pass current with some, but the fallacy of the reasoning will be at once detected by those who have much acquaintance with the subject. The idea seems to be adhered to that the five-toed fowls described by those writers, must have been Dorkings, merely because they had five toes. Hence Mr. Browne calls the Dorkings a "*race*." He says—"This race has the peculiarity in having a supernumerary toe on each foot." But the extra toe is no distinction of "*race*," nor is it peculiar to the Dorkings. It is not unfrequently seen among some of the smallest Bantams, and is occasionally met with among the crested, or Polish varieties of fowls. E. S. Dixon, in the late edition of his work, states that it frequently appears in the Cochin-China, from which he infers the near affinity of the Dorking with that fowl. It is a freak which is not referable

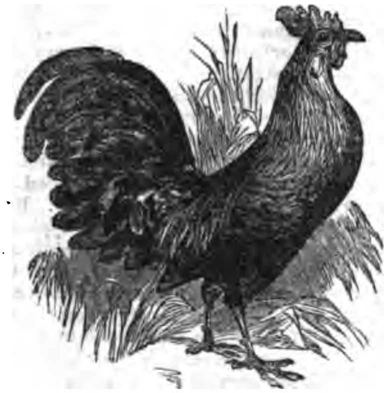


Fig. 173—*Javanese Jungle Fowl.*

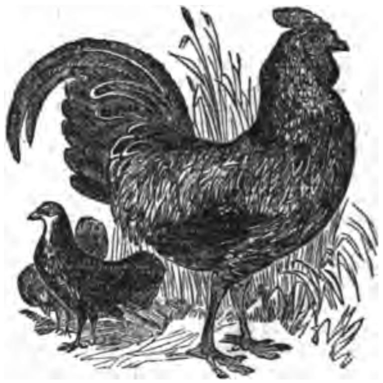


Fig. 174—*Sonnerat's Jungle Fowl.*

to any *race*, or to fowls of any special affinities. Its appearance among the fowls of Surrey and Sussex (England,) does not appear to be of remote date. I do not find it spoken of by any writer previous to Mowbray* whose work was first published about the close of the last century. Arthur Young, in his "*Survey of Sussex*," written soon after the commencement of this century, speaks of the Dorkings. He says—"The five-clawed breed have been considered the best; this, however, is a great mistake, and took its origin in some fowls with this peculiarity that happened to be very large and fine. It is a bastard breed."

I see no reason to doubt that it is an accidental variety of the fowls kept in Surrey and Sussex fifty years ago. In regard to the latter, Mr. Young adds to the remarks already quoted, the following—"The fowls of the Sussex breed, used at the table of Lord Egremont, have frequently astonished the company by their size." Richardson says "the Sussex is but an improved variety of the Dorking, similar in shape and general character, usually of a brown color, but possessing the advantage of wanting the *fifth* toe;" and in his article before referred to, written for the *Irish Agricultural and Industrial Journal*, he says—"The Sussex has latterly, to a great degree, superceded the Dorking in popular estimation," &c. Instead of saying that "the Sussex is a variety of the Dorking," would it not have been more in accordance with facts, to have said the Dorking is a variety of the Sussex?

But to return to Mr. Browne's classification. We have seen that he reckons the Dorking second to the Spanish, on the ground of the "serrated upright comb." Next to the Dorking, or the third remove from the Spanish, he places the Cochin China fowl, and this is represented by a figure, in which the comb is upright and *deeply serrated*—showing, on the basis of his arrangement, a much greater resemblance to the type than the Dorking, which takes precedence over it in the list.

Next to the Cochin-China, is placed the "Kulm, or Great Malay fowl," and in the figure accompanying the description, the comb is neither upright nor serrated; but is described as "*low, thick, destitute of serrations*," &c. Yet the Game fowl, which is placed the *sixth* remove from the type, has the "serrated upright comb," strikingly developed.

He copies (without credit) a part of Dixon's account of the "Pheasant Malay fowl," which it is said "may claim the sad pre-eminence of having given rise to more disputes than any bird of its tribe, always excepting the game-cock." This "Pheasant-Malay," he asserts, has occasioned the idea that certain fowls are a cross of the pheasant. But whether the idea in regard to such a cross be sound or not, his own reasoning shows that this "Pheasant-Malay fowl" did not give rise to it. He takes his description, which he considers very "graphic," from "a late English writer;" and this writer says—"I have a strong suspicion, from various peculiarities, that they are of comparatively recent introduction into this country, [England.] Baker, of London and Chelsea, (one of the best fancy dealers,) told me they were a breed from Calcutta." But the idea of fowls being produced by a cross of the pheasant, is by no means "*recent;*" it has been held for a long time, and is mentioned by nearly all English writers on poultry. Upon the whole, it seems probable that this "Pheasant-Malay" fowl is a variety found in the East Indies, which bears a strong resemblance to the English game-fowl. Specimens of stock derived from Sumatra, corresponding, mainly, to Dixon's description of the Pheasant-Malay, were exhibited at the poultry-show at Boston, last fall, and are still bred in the vicinity of that city. I am unable to say, from what I have seen, whether they are an aboriginal breed.

But how is Mr. Browne to be understood? He tells us, in the first place, that those "Pheasant-Malays" *gave rise* to the idea that there were fowls derived from a cross with the pheasant, though they, (the "Pheasant Malays,") he says, have no more of the blood of the pheasant, "than the Cochin-China or ostrich fowl," has of the blood of the ostrich; and yet in the very next sentence, he tells us that "hybrid birds, produced between the pheasant and common fowl, are of frequent occurrence!" These hybrids, he continues, "are considered unproductive among themselves, but when paired with the true pheasant or the fowl, the case is different;" that is, they will breed with the fowl or with the pheasant.

Now to what does all this amount? First, we are told that the idea of fowls being part pheasant, is all a mistake—the idea has no foundation, but *took its rise* from fowls that have no affinity with the pheasant; second, it is admitted that half-bred pheasant fowls "*are of frequent occurrence*," and third, that they are *capable of breeding* when "paired with the true pheasant, or with the fowl!" Thus making a solecism, scarcely equalled by the plea of the Irish pettifogger, who defended his cli-

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* It is proper to remark, that the name of Mowbray is believed to be fictitious—the work referred to having been written, as some assert, by John Lawrence, author of several books on cattle and horses, published forty to fifty years ago. See prefaces to Dickson's and Boswell's works on poultry.

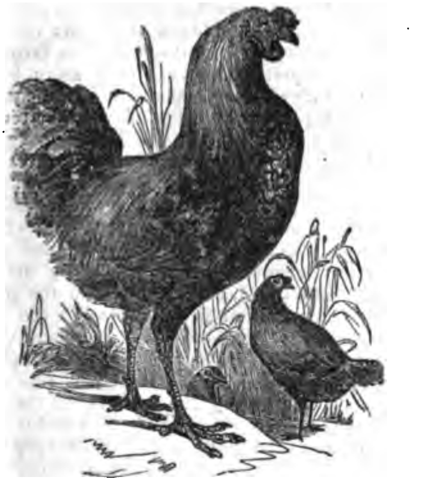

Fig. 175—*Great Malay Fowl.*

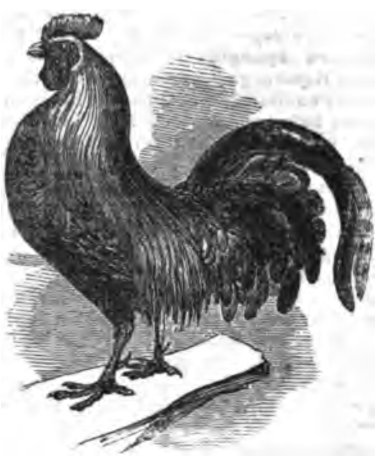

Fig. 176—*Game Fowl.*

ent, first, on the ground that he *never borrowed* plaintiff's kettle; second, that *it was broke when he borrowed it;* and third, that *it was not broke when he carried it home.*

Suppose some of those half-bred pheasant fowls, which are of such "frequent occurrence," should be "paired with the pheasant or with the fowl," and an offspring should be produced—a result which Mr. Browne admits has been realised. The progeny from the second cross with the fowl, would be a fourth pheasant, and that from a cross with the other parent would be three-fourths pheasant. There are abundant means of showing that this *has been done*. to say nothing of Mr. B.'s tacit admission of the fact, and is it unreasonable that fowls so bred should be called pheasant fowls? On the contrary, is it not much more proper to apply the term pheasant to such fowls, than to those which it is acknowledged have no more blood of the pheasant, than the Cochin-China fowl has of the ostrich?

With another example of Mr. Browne's mode of "changing language," we will leave these Pheasant Malays. Dixon speaks of the avidity with which these fowls are purchased in England; Mr. Browne speaks on the same subject, and the language of the respective authors, is given in the following extracts:

Extract from Mr. Dixon.	*Extract from Mr. Browne.*
"—— the buyer readily pays his money down, thinking he has got a nice fowl and a taste of pheasant into the bargain—something like the Frenchman, who was delighted at breakfast, on finding he was eating a little chicken, when he had only paid for an egg."	"—— the buyer readily pays his money down, thinking that he has got a nice fowl, and a taste of pheasant into the bargain—something like the Paddy, who was delighted at breakfast, on finding he was 'ating a little hen,' when he had only paid for an egg."

We come now to the Game fowl, placed by Mr. Browne, ostensibly on the basis of the "serrated upright comb," the sixth variety from the type; yet in none of the varieties thus far named, except the Spanish, is the comb so uniformly single, serrated and upright, as in the Game.

In regard to the origin and affinities of the game-fowl. Mr. Browne adopts the singular language of Dixon, viz., that "it approaches nearer to the Malay and Pheasant-Malay, than to any other variety of fowl." That the game-fowl bears a resemblance to what is called the "Pheasant-Malay," is, as before intimated, not unlikely; but it is plain from Dixon's work—notwithstanding this strange compounding of terms—that the Malay and Pheasant-Malay do not resemble each other. Mr. Dixon gives a communication from Mr. A. Whitaker, whom he considers "accurate authority," in which it is said—"They [the Pheasant-Malays] have no resemblance to the Malay, except that the cocks are rather high on the leg, the hens being the reverse."* The absurdity of the idea of the near resemblance of the game-fowl with the breed known as the Malay, and which Mr. Browne figures as such, is obvious to those who are well acquainted with the different varieties of fowls, and may be apparent to all, by a comparison of the accompanying cuts.

Fig. 173, is the Javanese Jungle fowl, (*Gallus bankiva* of Temminck;) fig 174, Sonnerat's Jungle fowl, (*G. sonneratii*, Temm.;) fig 175Great Malay fowl, (*G. giganteus*, Temm.,) (and is the same figure that Mr. Browne gives for the Malay;) fig 176 Game fowl. The three first of these are given as representations of fowls still found wild in the southern part of the Asiatic continent, or in the islands of Sumatra, Java, &c. They are considered by naturalists distinct races, though capable of interbreeding and producing a mixed stock which may be perpetuated. There are some other wild stocks, which it is not important to notice here. But if the origin of the game fowl is to be referred to one of these, the question of course arises, with which has it the greatest affinity of characters? Without occupying space with particular descriptions, it will be seen, merely by reference to the figures, that it must have required a "fertile imagination" to discover that the game cock "approaches nearer to the Malay than to any other variety of fowl!" As well might it be said that the fiery and swift-footed Arabian courser, "approaches nearer" to the huge and slow-moving Flemish or English draught-horse, than to any other variety!"

The "free use" which Mr. Browne makes of the writings of others, is exemplified more or less, in all parts of the book, but in this chapter on the game fowl he has even saved himself the trouble of "changing the language"—having copied *verbatim* to a large extent, from the works of Martin and Dixon, with no mark of credit whatever; though he has condescended, in the same chapter, to attach quotation marks to extracts from *anonymous* writers.

As we proceed, we find Mr. Browne describes what is commonly known in this country as the Bolton Grey or Creole, under the head of "Golden and Silver Hamburgh fowl," although he afterwards describes two *top-knot* varieties under the names of "Golden Spangled Hamburgh" and "Silver Spangled Hamburgh"—making but a trifling variation in the names of very different fowls—the head of the one being surmounted by a large crown of feathers, and that of the other entirely destitute of this striking appendage.

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* Dixon's Ornamental and Domestic Poultry p. 318

The next is the Cuckoo fowl, the description of which is taken from Dixon. It appears to be nothing more than what is here known as the Dominique, though this is noticed separately in another part of Mr. Browne's book.

He makes seven varieties and sub-varieties of the *crested* fowl: viz., "the Lark-crested fowl," "the Golden Spangled Hamburgh," "the Silver Spangled Hamburgh," "the Black Polish," "the Black topped White Polish," (now supposed to be extinct,) "the Golden Polands," and "the Silver Polands."

The Bantams are separated into *five* divisions: viz., "the Yellow or Nankin Bantams," "the Sebright Bantams," "the Black Bantams," "the White Bantams," and "Creepers." It is impossible to see the propriety of some of these distinctions, inasmuch as a single pair of either the yellow, black or white, will produce all these (so-called) varieties. An instance is known to the writer, where a pair of brown colored birds, whose parents were imported from Java, produced a progeny the first season of breeding, which showed all these different colors, as well as the red and spangled.

Mr. Browne finishes his arrangement, with a chapter on "Mongrels and Barn-Door Fowls," in which he describes "the Jago," "the Shanghae Cochin-China," [?] "the Plymouth-Rock," "the Jersey Blue," "the Ostrich," "the Booby," "the Bucks county," "the Dominique or Dominica," and "the Blue-Dun" fowls.

In the remainder of the book, Mr. Browne has embodied much that is valuable, taken chiefly from the works of Martin, Dixon, and authors quoted by them—adhering generally to the rule adopted in the outset, of "changing the language" sufficiently to "Americanize the subject." OBSERVER.

IRRIGATION.

EDS. CULTIVATOR—I have long been aware of the importance of fertilizing land by means of water, and what can be more rational, when by chemical analysis we find that the water of many streams, contains a large quantity both in suspension and in solution of animal, vegetable and mineral substances, and also that it is a compound, even in its purest state, of hydrogen, oxygen, carbonic acid, &c.? By the same analysis, also, we find that the principal ingredients for the support of plants, are these identical substances. Here, then, the wonderful effect of irrigation upon the soil, is at once accounted for; and with regard to this wonderful effect, I will here refer the reader to Brewster's Edinburgh Encyclopædia, and especially to the articles under the heads of Irrigation—Agriculture—France. It has long been practiced to a greater or less extent, in every habitable country on the globe, between the 60th degrees of north and south latitude. The Hon. Daniel Webster, on witnessing in England, the great effects of irrigation, made particular inquiry as to the rules, results, &c., which, with his usual clearness, he communicates to his agricultural friends after his return home.

If in the cool and moist climate of England, three crops of hay and grass are obtained in one season, and their irrigated lands rent for double the price of other lands, why may not the American farmer realize at least equal advantages in a more favorable climate? Indeed, the farmer who has the power of fertilizing a portion of his land with water, has a treasure in his possession, and he who neglects to avail himself of its benefits, is certainly slow in the comprehension of his interest. That water operates as a powerful fertilizer to the soil, when made to flow over it, is fully proved by the fact that on up-land which has been irrigated and used for pasture or meadow, the water being afterwards withheld, and the land subjected to the plow, an unusual heavy crop of grain is always the result—far exceeding the product of other parts of the same field not irrigated. Thus water, when applied to grass, on lands adapted to grain, performs the double office of increasing the growth of the former, and at the same time imparting a durable fertility to the soil for the benefit of the succeeding crop of grain. Rye, however, even when growing, is much benefited by slight irrigation after the appearance of the blossom, and Indian corn can scarcely be watered too much after the appearance of the silk and tassel, and a luxuriant growth will be the result. It is probably the hayfield, however, from which the farmer may derive the greatest advantage from irrigation. A meadow, for instance, which will produce 3 to 4 tons of first quality of hay per acre (which has been effected by this means, even as far north as Vermont,) for an unlimited term of years, without the expense of any other manure; but in case he consumes his hay on his farm, contributing largely towards his stock of manure for other fields—such a meadow may well be regarded by its owner as of great value. Indeed, let a comparison be made with regard to the net profit, with almost any other crops obtained from an equal quantity of land, for a term of years, and it will be found that the amount of labor and other items of cost required to put the crop into a marketable state, will throw a large balance in favor of the irrigated meadow. It therefore becomes a question to the farmer who possesses the means of irrigation, whether it would not promote his interest to set apart his irrigated lands, even if suitable for grain, as permanent meadow, and exempt them from regular rotation.

Objections have been made, by some, that the hay of irrigated meadows is less nutritive and less palatable to cattle than other hay. This objection will only apply where the water has been allowed to flow too profusely and too late in the season; and this may be entirely avoided by winter and spring irrigation, properly conducted. As increased fertility of the soil is an object with every farmer, I am decidedly of the opinion that from the first freezing of the earth in autumn, to the entire cessation of freezing in spring, is by far the most suitable and proper time for fertilizing all lands with water. An argument in favor of this, is, that several months of each year are added to the time for the water to impart its fertility; which is so much clear gain of time in addition to the common method; and the earth is kept through the whole winter considerably above the freezing point, and should a sheet of ice extend over the entire field, it will do no injury but protect the earth beneath from freezing.

Professor Davy ascertained that the temperature of the earth beneath a lid of ice, on a water meadow in England, was 14 degrees warmer than the air above, in a very mild wintry day. In this case, on the water being withheld, at the time above stated, the field will be several weeks in advance of other lands, and an early crop may be put in, or if the field is designed for meadow or pasture, it is here that the first green mantle of spring is spread out, and it is here that the farmer's cattle find the first herbage of the season, and indeed linger latest in fall, for with a few judicious waterings in summer, it holds out later in autumn than other lands. I can point to a piece of tillage up-land, which a few years ago was a dry, barren spot, but is now like a rich garden, made so solely by water. A stream of what is called hard water, (rendered so probably by the sulphate of lime it contains,) has been diverted from its course, and spread over the surface for about six months of each year, and by filtering into and through the soil, has deposited an immense amount of fertilizing matter, as was clearly shown by a recent crop of Indian corn. The hills below the line of the ditch, yielding double the quantity of those above the line, and but a few feet apart. It was also noticeable, that while worms had seriously injured the corn above the ditch, not a hill was molested below, as far as the water had reached. And here I will remark that on all irrigated lands the grasshopper ceases to be "a burden" to the farmer, and the same may be said of all the various insects and worms that prey upon vegetation, whose combined depredations often deprive him of one-half of the product of the hay-field. Indeed, every description of vermin, which burrow beneath, or live on the surface, always to the annoyance of the farmer, find no resting place on irrigated land.

Time will not now permit me to go into a general detail of directions in relation to fertilizing land with water. I will observe, however, that all irrigation, after vegetation has commenced in the spring, should be, if practicable, applied only in the night, or between the setting and rising of the sun, and gradually discontinued as the season advances, and by the first of August entirely withheld, except to supply the deficiency which may be needed in the absence of rains. I am aware that but small portions of a country can be benefitted by irrigation, yet when we look at the extent it is practiced in the eastern hemisphere, where the surface is more flat and level than here, it certainly can be done to a still greater extent in many of these states. Indeed, there are methods adapted to both level and hilly districts, which can be as easily resorted to here as in foreign countries. When the least doubt exists with regard to the practicability of irrigation, the eye should not be trusted without the aidof a correct leveling instrument. All streams seek and flow through the lowest grounds and valleys in their vicinity; consequently by the laws of gravitation, aided by the spring freshets and rains, the soluble salts, the finely divided organic matters, and the richest parts of all soils, are gradually moving towards the place where waters flow, and are continually passing away with the current, and this forms one of the drawbacks upon the permanent fertility of soils. To arrest these matters from wholly passing away and being lost, is one of the important ends of irrigation. Even the smallest rills which flow but a few weeks in spring, may in most cases be diverted from their natural courses, and spread upon meadow or plow lands, in a few years rendering other and more expensive manures unnecessary as far as their waters reach; and it is certainly a great addition to the value of any farm, if the location admits of a portion of the same being fertilised by means of water, without going to an unreasonable expense. With this view, a careful examination of every stream which the farmer has at his command, should be made, and this, in most cases, can easily be done. A. B.

On the Acclimation of Tropical Plants.

Eds. Cultivator—By acclimation I mean, here, the capacity of vegetable productions to adapt themselves to a decidedly colder climate than that in which they originated; an adaptation accomplished usually, in a gradual manner. A plant may be said to be acclimated when, although its foliage may not have acquired that expansion, nor its fruit that flavor that it usually acquires in its native clime, yet both are of such a character as to render the plant available for the purposes of life, much as in its native clime.

The simple, and universally recognised fact, that nature has bestowed an appropriate vegetation upon each clime, a vegetation marked, in most cases, by well ascertained limits,—limits which spontaneous nature has, after no lapse of time, transcended; this fact, I say, would seem to answer the question of acclimation in the negative. What educated man thinks of meeting with apples, pears, cherries, wheat, oats and turneps growing at the equator; or who would look for coffee, oranges, or pine apples at Boston? All feel that here we are principally concerned in the cultivation of those vegetables that the hand of nature originated here, or somewhere near this parallel of latitude.

What then are the facts in regard to acclimation? Can tropical plants, by a progressive cultivation, or by a sudden but careful removal to the north, be brought at length to flourish, say at Boston or Buffalo, as in their native clime? The answer in general, is—no, not in a single instance. Not only will they not produce perennially, or through the whole year, or resist frost, but, during the short season of production, they will be exposed to liabilities unknown to them in their native climes.

There are about seventeen tropical and semi-tropical plants cultivated here, besides numerous other plants and flowers that are occasionally seen. They are the artichoke, bean, cucumber, corn, egg plant, watermelon, muskmelon, nasturtion, okra, pepper, potato, sweet potato, pumpkin, squash, sunflower, tobacco and tomato. Most, and perhaps all of these present also varieties, and some of them very numerous. Now in what sense can these seventeen plants, (more or less,) be considered acclimated, some of them, as corn, potatoes, beans, &c., having been cultivated at the north for more than two hundred years? I answer—

1st. The least degree of frost kills them according to the degree of its severity, now, just as it did the first year of the introduction of any variety of these plants. Not the least power to resist frost has been acquired. Indeed, plants produced by seed fresh from the tropics, resist frost just as well as old varieties of the same plants that have been cultivated here for a century. In 1849, I cultivated a potato whose ancestor was imported from Bogota the year before, and also seedlings of the same, the seed being grown here in 1849. During the same year, I also cultivated a muskmelon and a winter squash from St. Thomas, in the West Indies. And yet they resisted the autumnal frosts just as well, and no better, than our old varieties of the same vegetables.

2d. A cold summer, especially if it be wet, will sicken the most of these plants, so that they will die, or not fruit at all, or at least produce a fruit of little or no value. The potato, and probably the nasturtion, are exceptions to this rule. from the fact that, though tropical, they are also mountain plants in their own country. Corn and beans also exhibit considerable hardiness, but yet are not unfrequently a failing crop. The other varieties must almost habitually be cultivated with extreme care to secure a good crop, and often, with every precaution, are a total failure, even when not cut off by frost.

3d. When started early, in favorable seasons, i. e., those that are long, warm and dry, they do well. They nearly all require from 15 to 20 weeks to mature their fruit, and these weeks must all be comprehended within warm weather; the potato and artichoke being, I believe, the only tropicals that will germinate in cool weather, and they, it will be seen, are tubers, and not seed, usually. If then any one season does not open early enough, and extend far enough into the autumn to afford at least fifteen weeks of warm weather, the most of tropicals, become a failing crop. Hence it is wise to start the more tender sorts in hot-beds in the spring.

4th. If we wish strong and sure seed of these plants, we must see that it ripens in warm weather, or, at the very least, the fruit must get its growth in such weather. Late planting, or a cold summer will be sure to produce seed that is thin and imperfect, and of feeble and uncertain vitality. The due elaboration of tropical seeds requires heat as an invariable law.

5th. These tropicals are nearly all susceptible of a *shortened period* of growth in northern climates. The first year or two, after tropical plants are brought from the south, they are ripened with difficulty. The three plants, noticed above in No. 1, evinced this. The muskmelon with much difficulty ripened but two fruits on thirty hills; the squash did not mature at all; and the potato, at the approach of late frost, was all in bloom. The seedling tubers of these potatoes did not acquire, usually, more than one-fourth the size of other seedlings, raised from seed obtained from old home varieties. If, with the utmost care, you can get seed fresh from the tropics, to ripen one crop of seed, there is always hope that in subsequent years, it will so much contract the period of its growth as to be capable of advantageous cultivation, at least after a few years.

6th. In the cultivation of tropical plants, little dependance should be placed on seed imported directly from tropical climates. Not only will its season of growth be probably too long, as already seen, but, from some perhaps inexplicable connection between plants, and the soil and climate in which they grow, they need to be produced from seed grown on the soil and in the climate where the plant is to be durably cultivated. Hence generally, our chief use of seed, brought directly from the tropics, should be as a basis of new and strong varieties to be gained often, in the first instance, with considerable difficulty,—varieties which, when grown from the first, second or third crop of home grown seed, will be likely to exhibit plants much better adapted to peculiarities of climate than the originally imported seed was. This fact is not confined to tropical plants, but it is a law somewhat general in vegetable physiology. Some of the finest apples and peaches of the United States, do not sustain their reputation in England, and some other parts of Europe,—and the reverse. So fine varieties of potatoes brought from Wales, England and Scotland, do not succeed well here, generally. In our own country, some varieties of fruit fail of their peculiar qualities, when removed a few miles from the spot on which they originated. The seedling potato noticed above in No. 1, though eminently hardy in respect to *climate*, is yet liable to injury from a small black flea, as our native varieties are not, and showing the need of re-production, in this climate, so as to secure a firmness or other peculiarity of tissue which will resist this enemy.

The foregoing considerations are those that seem most important to be noticed on the question of the acclimation of tropical plants. And now, what is the result? It is this, and only this. Such plants as can ever be cultivated here at all, are capable, by successive re-production, of shortening their period of maturity, so as to come within the limits of our ordinary summers. This is especially true of corn, potatoes, beans and pumpkins. Almost all the others frequently fail unless forwarded in hot-beds. It is possible also, that the foliage of some tropicals may here acquire a greater power of resisting chills than they possess in their native country. But I am doubtful of even this, since, after having cultivated the most tender of these tropicals for many years, and often almost by the acre, I have not found any tendency to such increased hardiness.

Any hope then, of ever making these plants capable of bearing the frost, is as vain as that of converting a bulrush into a cedar of Lebanon; or that of accustoming the lion, the camel, and the elephant to a northern winter, in common with the deer, the wolf, and the fox.

Our climate presents very wide extremes of temperature, exhibiting at once the summer heats of Spain and Italy, and the wintry cold of Sweden. The heat of our summers, being thus nearly tropical, is found quite sufficient to mature such tropical plants as are accommodated to their length. Hence, although vegetation starts later in the spring, and closes earlier in the autumn, than in England, its progress in midsummer is so much more rapid, in consequence of its intense heat, that tropical plants mature here, and produce fruit, equal to that of southern climes,—fruit that will not grow at all in England, Holland, and the north of France.

It is most unfortunate for the science of agriculture, that we have, so far as my acquaintance extends, no well written treatise on the cultivation of tropical plants. So low is the state of society in all the states of tropical regions, that the people do not know the capabilities of the soil and climate which they possess, nor the susceptibility of improvement inherent in their fruits and vegetables. Hence, with soil and climate so much inferior, we yet cultivate melons, tomatoes, squashes, &c., in size and flavor, decidedly superior to the same fruits cultivated there. Many of these plants, as varieties of the bean, pepper, squash and nasturtion, are known to be there biennial, and some even perennial. There is some reason also to suspect that the tomato, and some sorts of melons, are more than annual, when cultivated in their native climes.

It will be seen that the preceding remarks are applicable especially to central New-York, but the leading principles of this article are applicable to all northern climes, whose summer heat compares at all with ours.

The preceding illustrations have been confined to herbaceous plants, and mostly to such as are technically called *vegetables*, but the principles apply equally well to *fruits* growing on wood stems, such as the peach, and the grape especially, which are semi-tropical in character;—and also remotely to the cultivation of the apple, pear, apricot and quince.

The above facts are hastily thrown out, in the hope that some one favorably situated will pursue the subject, and give to the public a full exhibition of facts and principles in a department of horticulture which has heretofore been left in the dark. C. E. G. *Utica, March*, 1850.

Things Necessary to the Successful Pursuit of Agriculture.

Eds. Cultivator—It would be impossible, within the precincts of a short article, to cover the ground occupied by this topic. All that can be done here is to throw out a few suggestions upon the subject.

It is often said of farming, "Oh! yes, it is a very fine thing to write about, and talk about, but when it comes to the labor of it, it is a great deal of hard work for a very little money." No doubt, as farming is generally conducted, this is a truth;—but are there not disadvantages connected with the pursuit of agriculture, as it has been followed in times past and at the present day, which would operate as strongly against the profits of any other occupation as it has done against agriculture?

Among the many, let us look at a few facts. Suppose a man, anxious to enter into business, should buy him a fine store, and fit it up with many conveniences for the reception of goods, and then should find out that in so doing he had expended all his capital, and had nothing left to buy goods with, would not this, even with all the facilities of the credit system, hamper his prospects for business so much as to render his success very doubtful? And does not this bear a strong analogy to many cases among farmers? We will suppose a man to come in possession of a farm of fifty acres of land, with the necessary buildings for farming purposes, and one thousand dollars in cash. Now do I not state a fact, when I say that instead of keeping the $1,000 as a capital to conduct the business of the farm with profit and success, seven men out of nine would seek at once to buy more land, investing the $1,000 in this way, and perhaps even buying so much more land as to run them in debt $1,000, thereby laying them under an interest of $60 or $70 a year, besides depriving them of any capital wherewith to improve their newly acquired property. In this situation, then, no matter what a man sees which might be an improvement, and one of very great advantage too to his farm, he is obliged to let it go "to a more convenient season," for want of means to carry it through. Men require capital for the successful pursuit of trade, commerce and manufactures. Is it at all wonderful then, that capital should be required for the successful pursuit of agriculture? Nay, is it not more wonderful that men can start as they often do, with little or nothing, make a small payment upon a farm, and bringing bone and muscle in direct opposition to capital, after a long struggle, by the aid of perseverance and economy, finally gain the victory? It is always and ever a long and desperate struggle, this struggle of bone and sinew against 6 or 7 per cent. interest. Even sage experience often stands aghast, and sighs to think that what it knows would pay so well, must yet be left undone for want of means. But give a man who can win this battle, a farm, and a capital adapted to its size and situation, and my word for it, he can make agriculture a source of profit.

I will next name *experience*, as an essental to the successful pursuit of agriculture. Experience—ah, what a volume does that one word express. Experience in trade, in commerce, in manufactures,—who thinks of entering into and hopes for success in any of these branches of social life, without experience; and shall he hope for success in agriculture without it? Does the tyro in mechanics, seek to build a house before he learns to plane a board?—Does he not learn his art, step by step; and is not agriculture an art, and must it not be learned by practice, by study, by experience? Without experience, what is it? It is to the wise in other pursuits, a stumbling block. How many men have there been, who, tired of a life of toil amid papers and account books,—tired for a time of brick walls, of vain and empty pageantry,—have determined to spend the rest of their days amid green fields and shady groves? They become farmers—but, alas, few qualifications have they for this vocation. They bring with them habits of body and mind almost unknown to the agriculturist, and after spending a few years in what is to them a hermitage, with impaired fortunes, and disgusted with all that appertains to agriculture, they again seek the busy marts of trade. Had agriculture been to them a *profitable investment*, they might have liked it; but it was a *losing business*. Alas, experience was wanting to teach them how to invest their capital.

If a man has a taste for agricultural pursuits, and capital enough to see him safely through all the *rudiments* of the science, and to bear him through all the *hard knocks* that his purse will get from a want of experience—if, in short, he has capital enough to pay for his experience, and taste enough for agriculture to consider it well spent, it may do; but let no man of very limited means undertake to conduct the business of a farm without experience, unless he wishes to make shipwreck of his property. And what I say here, I say again is not peculiar to agriculture. No man can be a good lawyer, a good doctor, a good merchant, a good mechanic, without practice, study, experience; why then should he be a good farmer without them?

Order, System and Economy,—without these, no man can be successful in conducting the business of a farm; but as these subjects have recently been discussed at some length and with much ability, in the pages of *The Cultivator*, I shall only make a remark or two concerning them. If a man neglects these things, capital will be expended without a profitable return, and even experience will be of little avail. That man cannot expect to prosper, who leaves everything at odds and ends. If grain is sown, and cattle pastured in adjoining fields, with little or no fences around them, in all human probability the grain will be destroyed. If pigs are allowed to wander about a man's yard, and now and then to get into his garden, it is not very likely he will have many vegetables for his table—and so too of a hundred other things which might appear very simple to be mentioned in a book or paper, but which are nevertheless true. Such things certainly exhibit a want of order, a lack of system, and very poor economy.

I shall now mention *Book-farming*, as a very necessary thing for the successful pursuit of agriculture. Yes; book-farming—that terrible bug-bear to the so called practical farmer—for notwithstanding all the attempts which have been made to define book-farming, and to show that it is in the main but the gathering up of practical experience, still the practical man, as he calls himself, flies from it as the wild horse would from before the locomotive. I am sometimes ready to ask, were there ever men in the world, savage or civilized, so blind to their true interests as many of our farmers are?—Books have been written upon almost all subjects;—trade, commerce, manufactures, the sciences, the mechanic arts, navigation, have all come in for their share;

But does the merchant, the manufacturer, the mechanic find fault with them? Does the navigator, as he sails over the wide expanse of ocean, throw aside the chart that was to guide him on his way, and when he nears some perilous shore, some rocky coast, does he exclaim—"Charts are of no use to me—I heed them not—if there are hidden rocks here I will strike them, and then I will know where they are again for myself." Suppose for a moment that something too theoretical has been advanced,—something that practice will not bear out,—is it the right way to correct the error to turn one's back upon everything that has ever been written—to pronounce it all bad and dangerous, and to brand it with infamy? Have not wild theories been advanced at different times in philosophy and the sciences? How have they been corrected? Why simply by men reading them, reflecting upon them, and by the aid of their intellects, working out truth from amid the mass of rubbish beneath which it was buried. And so too must the truths of agriculture be worked out from the mass of rubbish beneath which they are buried.

Farmers, we are here in an age of improvement; inventions and discoveries are crowning every art and science. Shall we remain torpid, while every thing around us is teeming with the impress of intellect? Depend upon it, we are but in the infancy of our occupation so far as *mind* is concerned. Can any man of ordinary intelligence look upon the present system of agriculture without discovering in it some of the grossest errors? Men wonder that agriculture is not more profitable; but are too indifferent to seek for remedies. Let us awake from this indifference—let us seek and examine—let us bring hidden things to the broad daylight—summons chemistry, geology, philosophy, mathematics, to our aid, and press onward to develop new resources and principles. H. C. W. *Putnam Valley, N. Y., March*, 1850.

Neglected Manures—No. 7.

Liquid Manures, Tanks, &c.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., June, 1850.

EDS. CULTIVATOR—Having now mentioned in succession, a variety of manures in a number of classes; having called attention to the fact of their being almost universally neglected, and to the leading characteristics which in the several cases constituted their chief value, I propose to leave this subject, lest your readers should find it becoming tedious. It is far from being exhausted, indeed it is but begun: still enough has been said to call into exercise on the part of attentive readers, a spirit of watchfulness that nothing worth saving shall escape them in future.

In the present letter, I shall notice the great waste of liquid manure, which occurs in many parts of the country, and the imperfect methods of attempting to preserve it, which are often adopted.

Chemical analysis shows the liquid manure, or urine, of animals, to contain many valuable fertilizing substances. It is always particularly rich in nitrogen, also in the alkalies, potash and soda, and in carbonic and sulphuric acids. The excrements of birds contain both the liquid and the solid part together, hence their great richness; this fact alone should convince the farmer, that in losing the liquid he greatly reduces the value of his solid manures.

The nitrogen in fresh urine exists there chiefly in the form of a substance called urea; this consists in a large part of nitrogen, and if dry may be exposed to the air for a long time, before it undergoes any perceptible change. In the presence of water however, and the other substances with which it is associated in urine, a species of fermentation soon commences; it is then speedily changed into carbonate of ammonia, which readily escapes into the atmosphere. In warm weather, the smell of this ammonia escaping may be perceived after the lapse of a very few hours. If the fermentation be allowed to proceed, the whole of the nitrogen will be transformed into carbonate of ammonia, and the larger part of this will evaporate into the air. If this constituent can all be retained, and the liquid applied to the crops, it is found to be a powerful manure. Prof. Johnston states, that at Flanders the urine of each cow is valued at about $10 per annum.

Scarcely less valuable are the drainings from the dung heaps, or from barn-yards. These contain large quantities of ammoniacal substances, and also of useful mineral ingredients, dissolved out from the solid parts of the manures. They undergo the same fermentation as urine, but more slowly, and the ammonia also escapes in this case. Where the manure, as is to be seen in many yards, is exposed to constant washing by rains, nearly every thing soluble in water is gradually dissolved out, and it is thus rendered quite inferior in quality.

The question now arises, how are these valuable liquids to be preserved? and how is the loss of their ammonia to be prevented? The method of accomplishing this, may vary with circumstances and situation.

Where it is practicable to build the barn upon a side hill, there is probably no better plan than to form a cellar beneath it, where all of the solid manure can be thrown from above, and the liquid conducted down upon it. A layer of peat or muck upon the floor, would prevent any thing from soaking through and escaping. In certain situations, manure kept in this way becomes too dry, and does not decompose properly; in all such cases the liquid manure would be doubly valuable. Some farmers turn in hogs to root over and compost the material in such cellars. Manure made in this way is neither exposed to evaporation, nor to washing, and one load is worth two or even more, of the bleached and washed straw and stalks, which we see being carted out from some yards. If it ferments too much, it is necessary to turn it over to check fermentation; mixing earth and sprinkling plaster over the top is also a good practice.

In cases where the formation of the ground does not admit of a convenient cellar under the barn, a *tank* is the most advantageous receptacle for the liquid drainage. This may be made by digging a square hole at the lowest part of the premises, and rendering it water-tight by a lining of planks, brick or stone. This is far better than an open hollow, such as may be seen in many yards. These are not only disagreeable to the eye, and a source of many inconveniences, but they expose the liquid to the full evaporating and decomposing influences of the sun, so that it decreases and deteriorates in a very rapid manner.

Many farmers think that a tank must necessarily be made of great size, or it will overflow. If all the water from the eaves of the farm buildings be allowed to flow into it, such a necessity exists, but if this water is carried away by separate drains, as it should be, then the quantity flowing into the tank cannot be excessive. During the summer, except where much stock is kept, or after showers, little liquid would be collected; especially if the yard were spread with muck. Where there is much stock, a drain should be made to lead their urine directly into the tank.

The next question that arises, is relative to the disposition of this liquid from various sources, after we have got it into the tank. From what has been said, it will be seen that it is extremely liable to ferment and putrify, and to lose a large portion of its most valuable ingredients; this will not happen quite so soon in a covered tank as in the open air, under the influence of the sun, but still it cannot during warm weather be delayed long. There are several methods of treatment which have beed found successful.

Some farmers mix two or three times its bulk of water, thus retarding the fermentation until they have leisure to distribute the liquid over their fields, with a common water cart. In most cases this would be a troublesome mode of management. A more convenient way, is to pump it up, and pour it upon the surface of manure and compost heaps, sprinkling them over with gypsum at the same time.

Where neither of these plans will answer, it is quite practicable to preserve the ammonia by sprinkling in occasionally a little sulphuric acid, say one or two pints; this converts the carbonate of ammonia into the sulphate of ammonia, a compound far less volatile than the carbonate. The same effect may be produced by adding gypsum or sulphate of lime; sulphate of ammonia is formed in this case also. The propensity that gypsum has to form this compound, when it is brought into contact with ammonia, explains its beneficial action in arresting the escape of that gas from fermenting manure heaps. Even when ammonia is rising so as to be visible in white fumes, and perceptible to the smell, a sprinkling of gypsum will arrest all further escape for a considerable length of time.

In situations where it is convenient to employ them, peat, peat ashes, wood or coal ashes, rich mould, &c., are good materials to throw into these tanks; they will absorb nearly all of the valuable parts of the manure. The tank soon fills up in this case, and must be cleaned out at comparatively short intervals.

These methods of using the liquids from the barnyard, and the stables, are all perfectly simple and practicable, while at the same time they involve little expense. The manure saved is of the most powerful character, and will upon trial be found to add very greatly to the resources of any farm.

The subject of water from the sewers of towns, has lately attracted much attention in England, and Prince Albert has quite recently made public a plan for extracting on a large scale, the valuable substances which it contains. He proposes a large upward filter,—that is, to bring the water into a receptacle under such a head, as to force it upward through a filter of sand and gravel. The clear water passes off above, and the solid matter remains below the filter, to be taken out and used for manure. I think that certain practical difficulties would attend the working of this plan, and the Prince seems to have overlooked the fact, that the clear water which runs away contains everything that is soluble in water, and of course much that it is important to preserve. In any case, the system would be too expensive for this country, but is worthy of mention as showing how much value is placed upon this species of refuse abroad. Wherever land lies so that it can be irrigated from the sewers of large towns, such irrigation will be found a most effectual and economical method of enriching it.

For my next communication I shall endeavor to select some more savory subject than has occupied our attention in the preceding letters of this series.
JOHN P. NORTON.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

NOTES ON GARDENS AND NURSERIES.

A few observations made of some of the gardens and nurseries in the vicinity of Boston, about the first of the sixth month (June,) may prove interesting to such of our readers as have not had opportunity for personal examination in that place, so eminent for horticultural improvement.

Graperies of J. F. Allen, Salem.

J. F. ALLEN, regarded as the most eminent grape culturist in America, has erected a number of grape houses, having in the aggregate, a running measure of about 500 feet, containing grapes, peaches, nectarines, and cherries, in the highest degree of culture. The forcing grape house had hundreds of bunches of large, fully grown, and ripe Black Hamburghs, hanging in rich clusters overhead, together with many other of the best foreign sorts, mostly ripe. Some of the bunches were nearly a foot long. The most rich and showy variety was Wilmot's New Black Hamburgh, the clusters being heavy and compact, with the berries about an inch in diameter. The Cannon Hall Muscat, the largest grape noticed, had slightly oval berries more than an inch long. The house containing these specimens was the *second* forcing house, the earliest ripened grapes being all gone.

Another house is devoted to retarding, the fruit not ripening till winter. The forcing, cold, and retarding house, furnish ripe grapes the year round. The earliest grapes have sometimes ripened a month before the late ones had disappeared.

The peach house was lined with over a hundred feet of nectarine trees, loaded with partly grown fruit. One tree of Hunt's Tawny was full of rich, golden, ruddy-cheeked nectarines, fully matured. A part of the peaches, with fruit about two inches in diameter, were beginning to redden. It may be remarked however, to those not familiar with forcing fruit, that while early ripened grapes are usually of delicious flavor, forced peaches are comparatively insipid.

Another house presented an exhibition of ripe cherries. The Elton was particularly fine, the fruit being an inch or more in diameter. The Black Tartarian did not succeed so well. It will be observed that at this time, peaches, nectarines, and cherries, in open ground, were but a few days past the season of blossoms, and that the cold, damp weather had materially injured and retarded the house fruit.

Buckthorn Hedges.

Good specimens of buckthorn hedges were seen on the grounds of J. C. LEE, of Salem, forming a close thick growth about six feet high. The only defect was in their being sheared too broad at top, the sides being nearly perpendicular, and the growth being shaded at bottom, was not sufficiently vigorous and dense. The most perfect specimen was in the garden of OTIS JOHNSON, of Lynn, the hedge being over seven feet high, and four feet and a-half thick at bottom, tapering with sloped sides to a sharp edge at top. It presented a very close and smooth wall of verdure from bottom to summit. It was 9 years old. Although but little thorny, it would doubtless prove a very safe and efficient farm fence, or form a good fruit-garden boundary.

Fruit Gardens and Nurseries.

The nursery of HOVEY & Co., at Cambridge, is decidedly the best in the vicinity of Boston, and one of the best in America. The broader alleys are lined with rows of specimen fruit trees, among which there are one thousand of the pear, consisting of about six hundred different varieties. They are mostly on pear stocks, and are trained as pyramids, and average about seven feet high. Nearly all are in bearing. They are the finest collection we have seen. The green-houses, hot-house, and conservatory, are in the aggregate about 400 feet long, and are densely filled with rich and rare plants. A lemon tree was loaded with fruit, many specimens measuring four inches long, and three in diameter. A beautiful drooping acacia about 15 feet high, and an Agave americana, (century plant,) expected soon to bloom, are among the interesting objects of the collection. Hovey & Co. occupy 36 acres of ground, and they have one of the most extensive collections in America, embracing fruit and ornamental trees, shrubs, &c., down to the most delicate green-house plants and annual flower seeds.

The great and celebrated collection of specimen fruit trees of the late ROBT. MANNING of Salem, now under the charge of his son, the present Robert Manning, is a place of great interest to the pomologist. Nearly 1000 kinds of the pear have borne fruit here. There are some pear trees growing on quince stocks, about 25 years old, still healthy and vigorous, although they have not received high cultivation.

The grounds and fruit garden of OTIS JOHNSON, of Lynn, are remarkable for the perfect neatness of their keeping, and the high state of vigor and thriftiness of the trees. Some hundreds of dwarf pear trees trained in the pyramidal form, exhibited the excellence of the culture they received. This garden has long been celebrated for the large number of premiums its specimens have taken at the exhibitions of the Massachusetts Horticultural Society.

The nursery of H. H. CRAPO of New-Bedford, is well filled with one of the finest collections of pears for sale that we have seen. He confines his attention mainly to this fruit. About 30,000 trees are of good size for transplanting. He states that the Deodar Cedar and the Scarlet currant both prove perfectly hardy on his grounds.

An excellent nursery for hardy trees only is that of S. H. COLTON of Worcester. It occupies 20 acres. In addition to the fruit trees with which it is mainly occupied, there are many thousand of the American Arbor Vitæ (or white cedar of New-York) for screens and hedges, for which purpose it is becoming much sought.

Fruit Garden of J. M. Earle.

J. M. EARLE, (President of the Worcester Horticultural Society,) furnished many interesting facts on fruit culture. Among all the new pears, he regards the Paradise d'Automne as decidedly the most promising of the autumn varieties, for that locality. Its growth is rapid, and so far as has been proved, it is quite productive. He is confident that the cracking and failure of the White Doyenne cannot arise from exhaustion of soil, the disease having within a few years, made its first appearance at Worcester, on young and old trees alike. In some instances, however, on trees standing closely side by side, of equal size, age and treatment, the branches being interwoven, one tree bore worthless fruit, while the other was loaded with large, fair and perfect specimens.

He has fruited the Diana grape, but does not regard it so valuable, all its qualities considered, as some have represented. It is however, a very desirable sort, ripening about three weeks before the Catawba, and is of high flavor. But unless well cultivated, the fruit is small. The published figures give a fair representation of the finer bunches under high culture. With the best treatment (which it should always receive) its growth is nearly as vigorous as that of the Isabella.

Evergreen Screens.

The grounds of J. P. CUSHING, near Boston, furnish some very fine specimens of evergreen screens, bordering the carriage ways when the side view is to be concealed, or where they lead to the back buildings. The trees employed for this purpose are chiefly Norway fir, American Arbor Vitæ, American White Pine, and Balsam fir, and are 20 or 30 feet high, about 8 feet apart, not sheared, but forming a close and effectual screen. An Arbor Vitæ hedge, four and a-half feet high, presented the smoothest and most perfectly dense wall of verdure we have ever seen. It has stood fourteen years, and is kept well sheared.

Grounds of James Arnold, New Bedford.

These form one of the most perfect specimens of modern gardening on a limited scale in America. Only two or three acres are occupied, yet within this space there is more variety, in open lawns, winding walks, groups of shrubs and plants, dense screens of verdure, changing vistas, and rustic arbors, than is afforded by some other places of ten times the extent. All is in the most perfect finish and keeping. The fruit and kitchen garden is surrounded on three sides by a massive wall of granite twelve feet high, the inner face being wholly covered with fruit trees, trained upon the trellis. Under glass, were noticed fine ripe clusters of the Black Hamburgh grape, and full grown peaches were reddening.

Cultivating Orchards.

For a few years past, about eighty thousand dollars' worth of fruit trees have been annually set out into orchards in the single state of New-York. If these were all treated in the best manner, in preparing the ground, in carefully transplanting, and in good care and cultivation afterwards, each year's planting would probably be worth to the owners in ten years, not less than three millions of dollars, so far as their value may be measured by a sum of money. The question arises, what proportion of this great number of trees are actually advancing with full promise of what they might attain? What portion will really become in ten years, by the best treatment, full-sized, healthy, and productive?

Several intelligent individuals have given it as their opinion that not one half of the trees that are set out, ever survive the third year. A very large number are certainly lost by careless removal, hasty transplanting into hard ground, and total subsequent neglect. But of those which survive, there are undoubtedly not one-tenth, that make half the growth they would attain under good management. We have seen whole orchards of young peach trees, smothered to death the first summer by the heavy growth of meadow grass which nearly enveloped them. A far larger number, however, are those which are not killed outright, but which linger year after year with a slow and feeble growth. Now, this tardiness is altogether unnecessary. Peach trees as far north as forty-three degrees, have been made to yield the third summer from transplanting, three pecks of peaches, and apple trees the fifth summer one bushel, each. An eminent pomologists now living in western New-York, set out a large fruit garden after long years had silvered his head with whiteness; yet for the past twenty years he has annually enjoyed a profusion of fruit from this identical fruit garden. The secret consisted simply in treating his trees as well as every good farmer treats his corn and cabbages.

“ But we cannot afford to give so much attention to our trees—the rich man only can do this,” says the laboring farmer. What! not afford to be economical? The man of small means is the very person to save his trees after he has paid for them; he is the very man who should not spend his coin to have feeble and fruitless orchards. Let him buy half the number, and apply the other half of the purchase money in taking care of what he has, and he will soon become the gainer by the operation. It is however a great mistake to suppose that much expense is needed. Enriching the land is largely paid for by the heavy crops of potatoes, carrots and rutabagas which grow between the rows while the trees are small, and by the equally heavy and more valuable loads of ripe fruit profusely yielded afterwards. The expense of plowing once a year, and harrowing four times, is perhaps not half the first cost of the orchard, to say nothing of the annual crops afforded; while it soon renders it quadruple the value of the neglected plantation. Why do not farmers apply the same wit and wisdom to the management of their orchards that they do to their corn and clover crops? Why should they not, when many who fortunately have already full grown orchards, get more in monied value from them than from all their farms besides?

The difficulty is rendered greater in most cases by the very inconvenient machinery used for plowing near the rows. A plow drawn with a two-horse team, with double whiffle-trees, cannot safely approach nearer than three feet to a tree, and every plowman dreads a task which is commonly attended with mutilated bark on one hand, and wide grassy “ balks,” on the other. A great improvement is made by placing one horse ahead of the other, with short single whiffle trees, especially if the draught traces of the hinder horse are considerably lengthened to allow running to right or left.

A wide error is committed in cultivating orchards by those who forget that roots extend far beyond the circle measured by the branches. The whole surface of the ground is covered by the net-work of roots, where full-grown trees stand 20 or 30 feet apart. The larger and more obvious roots, it is true, are near the base of the trunk; but all the finer ones, which so largely contribute nourishment, are spread at great distances. Hence all orchards which have made some years of growth, should have the whole surface cultivated and kept mellow, and not narrow strips or small circles just at the foot of the trees.

Profits of Fruit Culture.

The following facts, exhibiting the large profits which may be derived from the skilful culture of fruits, are furnished by S. W. Cole, of Boston, who is a remarkable fact-gatherer, and who remarks, “we give some extreme cases, and others which common skill may compass. The cultivator will do well with medial success. Yet it is well to have a standard of extraordinary attainment, or the perfection of excellence, as a goal for those who inscribe on their banner ‘ *excelsior*.’ ”

“ Mr. Moses Jones, of Brookline, in this vicinity, a most skilful cultivator, set 112 apple trees 2 rods apart, and peach trees between, both ways. The eighth year he had 228 barrels of apples, and in a few years from setting the trees, $400 worth of peaches in one year; and the best part of the story is, that large crops of vegetables were raised on the same land, nearly paying for the manure and labor. The tenth year from setting, many of the apple trees produced 4 or 5 barrels each, the land still yielding good crops of vegetables, the peach trees having mostly gone by old age. Mr. J. grafted a tolerably large pear tree to the Bartlett, and the third year it produced $30 worth.

“ Mr. S. Dudley, a very successful cultivator in Roxbury, an adjoining city, sold the crop of currants from one-eighth of an acre, for $108, the next year for $125, and he had good crops for several years. He picked 500 quart boxes from one-eighth of an acre the next season after setting the bushes in the fall. He had $25 worth of cherries from one Mazzard tree.

“We saw, in Natick, Ms., on the banks of the ‘classic Charles,’ on the farm of M. Eames, Esq., an apple tree grafted to the Porter when 75 years old; it soon bore, and the seventh year it produced 15 barrels, which sold at $30. The original Hurlbut apple tree produced 40 bushels in one year and 20 the next. The original Bars apple yielded 60 bushels in one year. N. Wyeth, Esq., Cambridge, in this region, had from a Harvard pear tree 9 barrels of fruit, which sold for $45.

“A farmer would not plant an orchard, thinking he should not live to eat the fruit; his son had the same views; but the grandson planted for posterity, yet his predecessors shared in the fruit also, for the grandfather drank hogsheads of the cider.

“Hovey states that a Dix pear tree, in Cambridge, produced $46 worth of fruit at one crop. We saw in Orange, N. Jersey, 100 bushels of apples on a Harrison tree, which would make ten barrels of cider, then selling at $10 a barrel in N. York.

“Downing says that the original Dubois Early Golden Apricot, produced $45 worth in 1844, $50 in 1845, $90 in 1846. A correspondent of the *Horticulturist* says that Mr. Hill Pennell, Darby, Pa., has a grape vine that has produced 75 bushels yearly which sell at $1 a bushel. James Laws, Philadelphia, has a Washington plum that yields 6 bushels a year that would sell for $60. Judge Linn, Carlisle, Pa., has 2 apricot trees that yielded 5 bushels each, worth $120. Mr. Hugh Hatch, of Camden, N. J. has 4 apple trees that produced 140 bushels, 90 bushels of which sold at $1 each. In 1844, a tree of the Lady Apple, at Fishkill Landing, N. Y., yielded 15 barrels that sold for $45.

THE HORTICULTURIST.

This excellent periodical, which for the amount and value of its matter, and pre-eminently for its practical utility, stands without a rival, loses none of its interest with the appearance of each successive number. We cannot, probably, better acquaint such of our readers as do not see it, with the nature of its character and contents, than to give a few condensed extracts from the single number for the past month, (May,) at the same time they will obtain much valuable matter.

Raising New Pears.

An excellent article from the pen of Samuel Walker, President of the Massachusetts Horticultural Society, urges the importance of raising seeds for new varieties of the pear by crossing, regularly and systematically conducted; no country having probably produced so many good varieties of this fruit, in proportion to the number of seedlings fruited, as the United States. He proposes to have two *good varieties*, growing side by side of each other, distant from any other sorts. By way of illustration, he suggests that the following varieties be made use of for this purpose:—

No. 1, Bloodgood,	To be grown side by side to produce seed for *summer varieties*.
" 2, Williams' Bon Chretien,	
No. 3, Seckel,	To be grown side by side to produce seed for *autumn varieties*.
" 4, Louise Bonne of Jersey,	
No. 5, Dix,	To be grown side by side to produce seed for *winter varieties*.
" 6, Beurre d'Aremberg,	

"The trees to be grown at three different locations, at least one-fourth of a mile apart, and out of the influence of any other pear trees.

"The seeds of all the varieties should be taken from the fruit when fully ripe, kept separately, and labelled as follows, viz:—

"No. 1, Bloodgood, fertilized by Williams' Bon Chretien.
"No. 2, Williams' Bon Chretien, fertilized by Bloodgood.
"No. 3, Seckel, fertilized by Louise Bonne of Jersey.
"No. 4, Louise Bonne of Jersey, fertilized by Seckel.
"No. 5, Dix, fertilized by Beurre d'Aremberg.
'No. 6, Beurre d'Aremberg, fertilized by Dix.

Seeds thus raised and carefully labelled, I think, would command a good price. I would rather give five dollars for a paper of one hundred pear seeds fertilized as above, to raise pear seedlings from, than I would to pay one dollar for a bushel of seeds, collected indiscriminately."

Varieties of Fruit for the South.

M. W. PHILLIPS, of Edwards, Miss., after trying a great number of sorts, is satisfied that the best varieties now cultivated at the north, are at present the best that can be planted in the southern states. He says "if there be a single peach to excel Early Tillotson, or Early York (serrate,) or Crawford's Early, or some others, that are natives, I never saw them," although he has 150 varieties from all latitudes, in bearing.

He gives the following list, "ripening for 75 days, from the 20th of June to Sept. 1st," and remarks, "if there are indigenous peaches, from Mason & Dixon's Line to the Rio Grande, ripening in succession, superior to those, I will give 100 dollars for them, that is for a tree of each sort:"—

Early Tillotson,
Early York, (serrate,)
George IV,
Hoffman's Favorite,
Crawford's Early,
Poll's Melocoton,
Early Red Rareripe,
Bellegarde,
Oldmixon Cling,
N. Y. White Cling,
Buist's Yellow,
Red Cheek Melocoton,
Brevoort's Morris,
Bergen's Yellow,
Crawford's Late,
Druid Hill,
Monstrous Pavie,
Smock Late.

How to Cultivate the Apricot.

A sound practical article from the editor, recommends as the chief requisite for success, and to prevent the frequent loss of the trees from various causes, 1. *To keep the trees low,* and to head back the shoots in spring, avoiding the practice of trimming up to a naked stem, and thus exposing the bark to the action of the hot sun. 2. To provide a deep, well drained soil, well fertilized with wood ashes. 3. To plant in a cool aspect, to prevent the too early swelling of the buds, and their consequent danger from spring frosts. 4. To prevent the loss of the young crop by daily jarring down the curculio on spread sheets. "Where only half a dozen trees are cultivated, there is no mode of making war upon this insect so sure and reliable, jarring the trees daily during the month of May, with a pounder, (sheathed at the end with india-rubber,) gathering the insects upon the sheets, and destroying them." The experience of a correspondent is added, that though previously unable to depend on his trees for a single apricot, after putting the jarring system into practice he actually obtained *three thousand most beautiful and luscious apricots* the first season of trial, from *five trees*.

Long Catalogues.

We are glad to perceive by an article copied from the *Gardener's Chronicle*, that Prof. LINDLEY has made a severe assault upon the long lists of many nurserymen, which have long led to such endless confusion. He remarks, "We have heard of one gentleman who numbered 1200 roses in his list, among which were about 850 wild briars, some of which had a little hair on their leaves, and some had none, some had double teeth, some had single, one sort had ovate hips and another oval, and so on. There exists we believe to this day a collection of Pæonies formed upon the same enlightened principle; and we have no doubt that similar collections of Daffodils, Michaelmas Daisies, or Catmints, may be found in some sequestered garden.

"This harmless folly, like many other crotchets, destitute of all elements of longevity, could scarcely exist, one would think, in this utilitarian age. We are therefore witnessing at the present day collections giving way to selection; 'hard pruning' applied in all directions to those old bushes of barren, half dead wood; and a few select plants, thoroughly well grown, replacing the empty pots and moribund sticks which invariably characterised the collections of our worthy forefathers and their ancient sons as long as they remained among us. It is therefore not a little curious to find a race of worthy men still unconscious of the change in public feeling, and continuing to publish interminable lists of this and that, as if the rage for collections was as fresh as ever

"Some recent lists of nurserymen and seedsmen afford amusing examples of this. One grower of roses offers 607 sorts of that flower; another, 850; a potato salesman's catalogue has 160 sorts; a Dahlia-grower's 3 or 400; a Geranium-grower's, as many; a seedsman invites attention to his 38 sorts of cabbage and 61 sorts of peas!"

Strawberries.

An Albany correspondent furnishes some excellent practical hints on the culture of this fruit, and strongly recommends a *moist soil*. He informs us that "a gentleman who is a good fruit-grower, informed the writer that the largest and finest strawberries he had ever seen were grown upon a terrace, from the slope above which issued a small spring, the water finding its way over the surface where the plants grew, and keeping it constantly wet."

Paint and Sand.

"WHEELER'S *durable paint* for outside work, is made as follows:—Take 50 pounds best white lead, 10 quarts linseed oil; ½ lb. dryers; 50 lbs. finely sifted clean white sand; 2 lbs. raw umber. Thoroughly mix and dilute the whole with the oil, adding a very little (say half a pint) of turpentine. A *wire* brush is used, which does not cut through with the sand."

Destroying Plant Lice.

The following simple and safe remedy is given. "Pour one quart of boiling water upon one ounce of shag tobacco; let it stand until cold, and then strain and bottle it for use; it will keep good a year if not wanted. One sprinkling of this will destroy the green fly upon any plant, without the least injury to the plant itself. The best method of applying it, is to take the plant in one hand, and holding it with its head downwards, with a feather or brush sprinkle the tobacco water on the under part of the leaves, or if the plants are not in flower, all over them.

Destroying Mice in Nurseries.

J. W. Hooker, of Rochester, completely effects this object by boring inch and a-half holes into wooden blocks, ramming in a quantity of corn meal and arsenic, and distributing them, with the mouth inclined downwards, in the most exposed places. The holes need filling each autumn.

Native Flowers.

Phlox divaricata is one of our most showy plants at this season, presenting masses of pure white, white with a blue eye, or pale purple; and more rarely, light red, or deep purple. Unlike many other plants from the woods, it agrees well with garden culture, where it sends up many stems, sometimes more than fifty from one root; and though each stem is "few flowered," yet the aggregate is 12 or 15 inches in height, and tends greatly to beautify the border.

Its specific name (*divaricata*) is derived from its form, or the manner of its growth; but it is a curious circumstance that our best botanists differ widely in regard to the meaning of this term. The Encyclopædia of Plants defines it, "growing in a straggling manner," and S. F. Gray, (Nat. Arr. British Plants) "very open, and growing in many different directions;"—while Louis-Claude Richard has it, "spreading out from the stem so far as to form more than a right angle with it above"—Beck, "diverging so as to turn backwards"—Darlington, "spreading so as to form more than a right angle with the stem above"—and Webster "turning off so as to form an obtuse angle above, and an acute angle below." Now from these definitions, I should infer that Linnæus had the first meaning in view when he named this species, for I have seen nothing about it to warrant the application of the second definition. D. T. 6 *mo.* 5, 1850.

Layers.

I have found that "a forked stick" to hold down the branch or shoot, is attended with much inconvenience, and now employ a substitute that suits me exactly. The inconvenience is that the proper length of the stick, chiefly depends on the softness or firmness of the soil; for we cannot tell without trying, how far the stick can be pressed in. If the ground is very mellow, and the stick rather short, it will not hold its place against the spring of the layer; and if the earth is hard, and the stick rather long, it must be cut shorter, on the old principle of "cut and try." Besides it is often difficult to find forked sticks in a garden, just when we happen to want them.

Well, now for the substitute. Take slender sticks, 8 or 10 inches long—whether cut from rods, or split from boards and shingles—and sharpen them. Press the layer firmly in the bottom of the trench, and set one of the sticks on one side, touching it at an angle of 45°; and then another stick in the same manner on the opposite side, and it is done. The sticks may enter the ground 2 inches, or four inches—as far as a reasonable pressure can force them—it matters not which; and there they are, firmly fixed in their positions. D. T.

Fruits for Central Illinois.

Information is constantly and eagerly sought in relation to the sorts of fruit adapted to the new West. Fruit cultivators are constantly removing to those regions, and wish to know what to carry with them; and older settlers are becoming rapidly awakened to the importance of having orchards of fine fruit. The following list of apples for central Illinois, is given by F. K. Phoenix, of Wisconsin, a very accurate and skilful cultivator, in the sketch of a trip through the former State,* and is the result of his deliberations, in connexion with those of E. Harkness, one of the best nurserymen of Illinois.

The following are "*good, and worthy of cultivation, though varying in merit.*"

Yellow Bellflower,
White Bellflower,
Red Romanite,
Rawle's Jannet,
Michael Henry Pippin,
Newtown Pippin,
Limber Twig,
English Golden Russet,
English or Winter Russet,
Rhode Island Greening,
Esopus Spitzenburgh,
Seeknofurther,
Milam or Harrigan.

E. Harkness regards the Vandevere as "valuable on many accounts," and he esteems highly the

Sweet June,
Autumn Swaar,
Rambo,
Early Harvest,
Fall Pippin,
Fall Wine,
Domine.

The following are rejected:—

Yellow Ingestrie,
Peanock,
Monstrous Pippin,
Roseau,
Pumpkin Sweet,
Dutch Codlin,

With several other varieties, none of which appear to be of much value any where.

Another cultivator regards the Fameuse and Belmont as the best *fall apples.*

C. R. Overman, of Canton, central Illinois furnithes the following list of 25 varieties:—

Summer.

Yellow June,
Carolina Red June,
Early Harvest,
Sweet June,
Early Red,
Trenton Early.

Autumn.

Maiden's Blush
Fall Wine,
Rambo,
Fameuse,
Fall Pippin.

Winter.

Newtown Spitzenburgh,
Bullock's Pippin,
White Bellflower,
Yellow Bellflower,
Rhode Island Greening,
Esopus Spitzenburgh,
Talman Sweet,
White Winter Pearmain,
Limber Twig,
Red Romanite,
Northern Spy,
Pryor's Red,
Rawle's Jannet,
Green Newtown Pippin.

Bean meal for Milch Cows.—We have on former occasions alluded to some trials that have been made in feeding milch cows with bean meal, the results of which seemed to show that it was a highly valuable article. At a late meeting of an English Farmers' Club, it was stated by a member, that nothing was so good for cows in milk, either as regarded the produce of butter or cheese, as bean meal.

Equinoctial Storms.—Dr. Ray of Woodward College, kept a record of observations for *fourteen years;* during this period, *ten* of the equinoctial days were either clear, or fair and pleasant days; *two* were partly clear, but more than half cloudy; while the remaining *two* were entirely cloudy and *partly* rainy. In addition to this, he found that by taking a period of *one whole month,* that is two weeks before, and two weeks after the equinox, there were *five* "bad spells" of weather; while in *nine* of the years there was no weather that could be called unpleasant.

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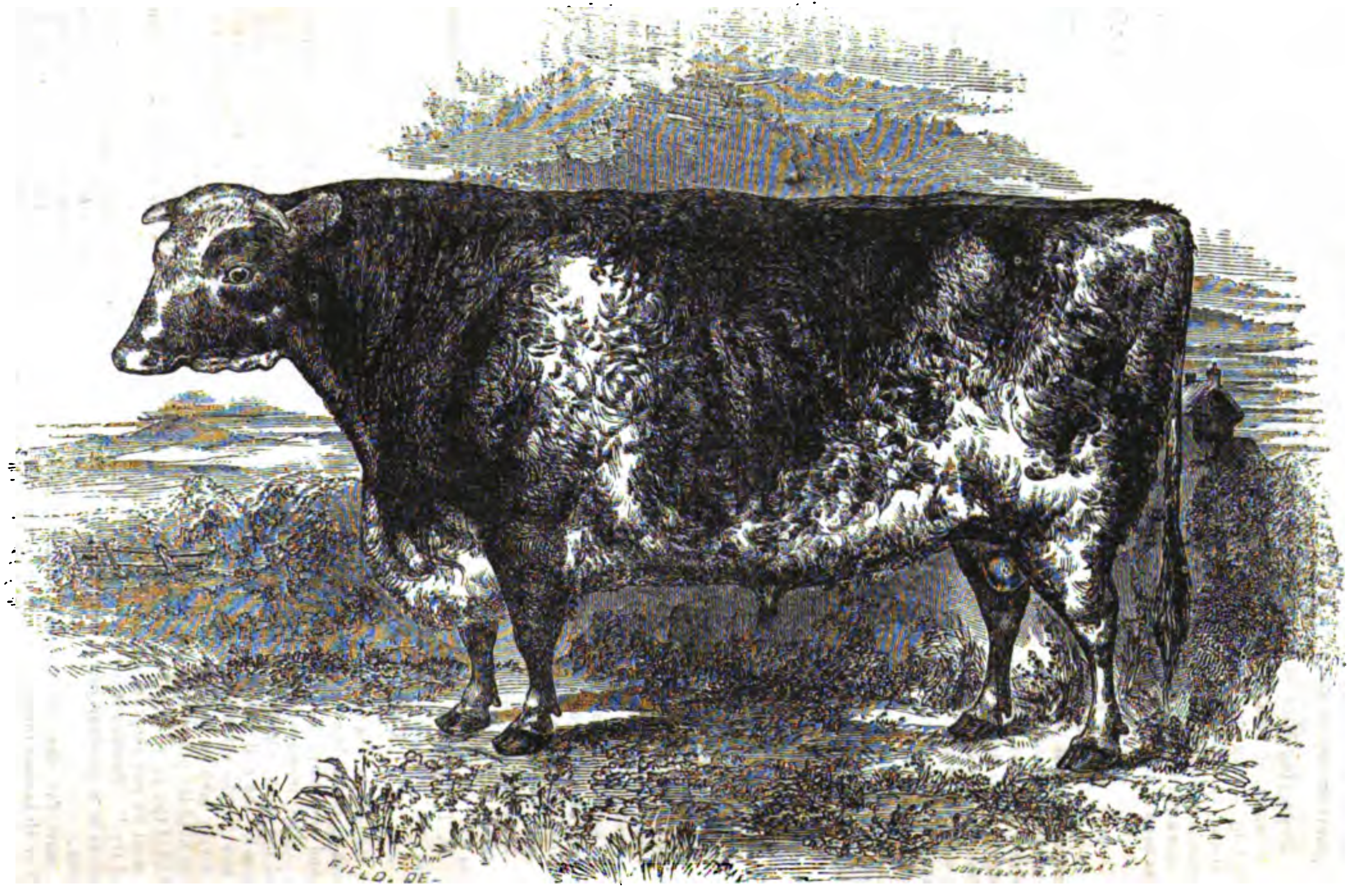
* In the Prairie Farmer.



THIRD DUKE OF CAMBRIDGE.

New-York State Agricultural Society.

Trial of Plows.

Agricultural Rooms.—Meeting Ex. Committee, June 4. Present—E. P. Prentice, President; A. Van Bergen, Vice President; J. McD. McIntyre, H. Wendell, M. D., Luther Tucker, B. P. Johnson, and delegates from Ulster, Oneida, Wayne, Saratoga, Duchess, Ontario, and Hartford, Conn.

The Judges appointed for the trial were present, as follows:—Hon. A. Van Bergen, Coxsackie; John S. Gould, Hudson; Sanford Howard, Albany; B. B. Kirtland, Greenbush. Absent—J. Delafield. Hon. Peter Crispell, Jr., of Ulster co., was substituted in the place of Mr. Delafield. (A letter was received from Mr. Delafield, expressing his great regret that his engagements in taking the survey of Seneca county, rendered it impracticable for him to be present as he had intended.)

The following competitors entered their plows for trial:—

E. J. Burrall, Geneva—3 Plows—Shell-wheel Iron Beam, Stiff Soil, and Stubble Plow.

A. Gilbert, New-York—2 Plows—Mooer's patent for stiff soils.

French & Smith, Rome, Oneida co.—3 Plows—Michigan Sod and Subsoil, Michigan Joint Plow, Michigan Plow.

W. U. Chase, Amsterdam—3 Plows.

A. Fleck, Montreal—Wilkie's Scotch Plow.

N. B. Starbuck, Troy—5 Plows—Starbuck's Trojan, do. Iron Beam, do. No. 3, do. No. 4. do. Side-hill.

Peter Auld, New Hartford, Oneida co.—2 Plows.

Miner, Horton & Co., Peekskill—4 Peekskill Plows.

H. L. Emery, Albany—1 Plow.

Bosworth, Rich & Co., Troy—6 Plows—Cast Iron Beam and Sod Plow. Side-hill do., Subsoil do., Stubble do.

John Randerson, Schodack—1 Plow.

Prouty & Mears, Boston—4 Centre Draft Plows, and Side-hill and Subsoil Plows.

Eddy & Co., Union Village, Washington co.—Washington Co. Plow, Side-hill do., Subsoil do., Grubber do., Stubble do.

R. R. Finch & Co., Peekskill—2 Empire Plows.

Making upwards of 40 plows entered for the trial.

The trial commenced on Tuesday, June 4, on the farm of J. J. Lansing, Greenbush. The stubble, or old land, was first plowed. For this 14 plows were entered, viz:—Fleck's Wilkie Plow, French & Smith's Michigan Plow, Eddy's Washington Co., Randerson's Schodack Plow, Miner & Horton's Peekskill Plow, Starbuck's Trojan Plow, Auld's "improved" Scotch Plow, Prouty & Mear's Two Centre Draught Plows, Bosworth, Rich & Co.'s Iron Beam, Finch's Empire Plow, Emery's Albany Plow, Burrall's Shell-wheel Plow, Chase's Amsterdam Plow. The trial of these plows occupied the judges until Thursday. On Thursday, 3 Side-hill plows—Prouty's, Rich's and Eddy's, and also 2 Subsoil plows, Prouty's & Rich's, were tested. On Friday, 26 plows were entered for sod land—*Stiff soil*; viz., 3 by Prouty & Co., 3 by Miner, Horton & Co., 4 by Bosworth, Rich & Co., 3 by French & Smith, 1 by Emery, 2 by Chase, 1 by Burrall, 1 by Eddy & Co., 1 by Randerson, 3 by Starbuck & Co., 2 by Finch, 2 by Gilbert, 1 by Fleck, and 1 by Auld.

The trial of these plows was completed on Saturday afternoon.

On Tuesday, June 11th, the trial on *Sandy* soils commenced on the Island opposite the city, above the Boston Railroad Depot. For this trial 24 plows were entered, all of which were tested, and the trial completed on Wednesday afternoon.

All the plows were tested upon each of the lands with the dynamometer, the same team being used for each plow, so as to secure as near as possible, an equal draught, so far as the team was concerned—the plows being guaged to cut furrows as near as possible of an equal depth and width. Wherever there were variations, they were noted by the judges, and will be taken into consideration in making up their final award.

In addition to testing the draft while plowing the different kinds of soil. the plows were also tested with the dynamometer, by hand power, operated by a windlass. This gave a steady and uniform motion, and secured a fair test of the power required to draw each plow—the soil and turf as nearly equal as it was possible to obtain it.

It has been the object of the Executive Committee to have this trial as full and complete as it was possible to make it, so that another trial could not be necessary, unless some new and important improvements should be developed. They are not aware that anything has been overlooked on their part or on the part of the judges, that would have made the trial more perfect, and it gives them great pleasure to be assured by the competitors, and other distinguished plow manufacturers in the country who were present, that their arrangements were in all respects satisfactory, and the best calculated to elicit the qualities of the various plows, of any that they had ever witnessed.

Every plow that was presented, has been tested, it is believed to the full satisfaction of the competitors. The exhibition of plows has probably never been equalled. Such has been the expression given by gentlemen, both manufacturers and others, who have examined the plows presented and tested, as well as the work performed by each. For durability, neatness of workmanship and material, the perfection of finish, the adaptation to perform the work of the farmer. it. is confidently believed that so fine a display has not before been seen in an equal number of plows. The work performed by all of the plows has been such as to merit and receive the approbation of the great number of persons who have been in attendance upon the trial.

The awards of the judges will be made as soon practicable, consistent with a due and careful examination of every question that has a bearing upon the subject. The importance of their decisions is apparent, and the subject will receive at their hands, all that deliberate and careful consideration which it demands. When the awards are made, they will be announced to the successful competitors, and will be made known to the public, probably, at the Annual Fair of the Society in September, when it will be necessary for the plows to which the premiums have been awarded to be on the grounds, if not already deposited in the Museum of the Society.

B. P. Johnson, *Sec'y.*

The Farmer's Note-Book.

Short Horn bull 3d Duke of Cambridge.

The engraving on the opposite page is designed to represent the Short-horn bull 3d Duke of Cambridge, at present the property of J. M. Sherwood, of Auburn, and A. Stevens, of New-York by whom he was imported from England. His pedigree as given in the fourth volume of the Herd-Book, page 614, is as follows: 3d Duke of Cambridge (5,941,) roan, calved September 14. 1841, bred by Thomas Bates; got by Duke of Northumberland (1,940,) dam Waterloo 2d, by Belvidere (1,706,) grand-dam by Waterloo (2,816,) great grand dam by Waterloo (2,816.)

This animal was imported in 1849, together with several heifers, and a notice of them was given in our last volume. page 130. He is a bull of rare excellence, both as regards shape and quality. He received the first premium as the best Short-horn bull over three years old, at the show of the New-York State Agricultural Society at Syracuse. Two of the heifers imported with him, received the two highest prizes in their class.

A Sheep Question.

EDS. CULTIVATOR—In your March number, at the conclusion of your article on the "Varieties of the Merino," you say, "Now as regards the production of wool, what variety would yield the greatest profit under these circumstances? In answering this question, it is not sufficient to refer to the weight of the fleece, and to the price it would bring in market, or to the aggregate amount of money which each sheep annually affords. Nor can it be fully determined by a comparison of the net proceeds afforded by the wool of different kinds, in proportion to the weight of carcass—although it is admitted that this would be an approximation towards the result. But who has ever made a fair and reliable trial of this kind?"

On turning to Morrell's American Shepherd, I find some light on these questions, which, to me, is pretty conclusive. On pages 229 and 243, under the head of Winter Management of Sheep, will be found the following table and remarks:—

"Veit was Professor of Agriculture in the Royal Institute of Bavaria, and his work is full of experiments and calculations at that seat of Ag. Science. He makes the following observations:—The need of fodder is proportioned to the weight of the sheep, and two and a-half pounds of the *value of hay* is required daily for every 100 lbs. live weight, to keep the animal in a profitable state. Hence the following amount of fodder is required:

For a long wool German sheep, his weight		100	lbs.,	2.50	daily.
Infantado Merino,	do	88	"	2.20	"
Grade Saxons,	do	75	"	1.87	"
Electoral Saxons, (pure,)	do	62	"	1.55	"

In connection with this table, Mr. Morrell quotes from Spooner's English work on Sheep—"An ox requires 2 per cent. of his live weight in hay per day; if he works, he requires 2½ per cent.; a milch cow 3 per cent.; a fatting ox, 5 per cent. at first, 4½ per cent. when half fat, and only 4 per cent. when fat. Grown sheep take up 3½ per cent. of their weight in hay per day, to keep in store condition." It must be understood by the reader that, in this estimate as well as all others, good hay is the standard of nutriment, and that if any grain or other food is used as an equivalent, allowance must be made for the quantity of hay accordingly."

On page 243 are the following comments on the above:—"Now we will suppose, taking Veit's statement as the standard, that the average weight of a flock of sheep is 80lbs. per head, and the foddering 150 days; this will give 2 lbs. daily to each, and for 150 days 300 lbs., and consequently for that period 100 will eat 30,000 lbs., or 15 tons.

"This certainly seems a low estimate as to the quantity a sheep requires daily, it being 66-100ths less than the English standard, as rendered by Mr. Spooner. But different breeds and their subdivisions vary so materially in weight, that to form a correct estimate, the sheep master should weigh some of each of different ages of his flock, and by classifying them according to their relative size, he may feed with greater accuracy. He must remember, however, that sheep when growing, of any breed, require as much food as when they have arrived at maturity; and growing sheep should never be stinted.

"Another important consideration must not be lost sight of, namely, the *quality of the hay*. If it is coarse, much of it the sheep will reject; and consequently an allowance of from 10 to 25 per cent. must be made accordingly. It is for this reason, old meadows produce a better quality of hay than new; that from the former being finer, and more miscellaneous. Sheep are very fond of clover hay, and will increase more rapidly in flesh if it is provided for them, than by any other description; but the quantity in bulk, comparatively, they require of it, is enormous.

"From the above premises, we are enabled to deduce an exceedingly important fact, which, if always duly considered, will be the means of avoiding the serious blunders hitherto so frequently committed by American breeders, namely, *that it requires an equal amount of food to produce a pound of flesh, or a pound of wool, without regard to the size of the sheep, or the breed.* This is indeed a truism, and therefore self evident. But by way of illustrating the point, let us select one of each of the rival breeds of England—the South Down and Leicester; we will suppose the live weight of the former, when in store condition, to be 100 lbs., and that of the Leicester or Bakewell, 150 lbs., which is probably, in general, the relative disproportion. Now it is clear, taking the estimate of Mr. Spooner, the Down sheep will consume 3½ lbs. of hay daily, while the Leicester will need about 5 lbs. Is the latter, however, more or less profitable than the Down? Clearly there is no difference, for the offal is relatively the same, and so is the proportion of the valuable parts—the flesh and wool. The expenditure of food for the Leicester is greatly the largest, but only in proportion to the difference of value derived from the additional size of the carcass. Thus it is seen, the pound of everything costs alike, and all circumstances being equal, the profits are the same.[*]

"But we will go farther, and instance the Merino and Saxon, alike distinguished for wool-growing purposes. The Saxon, it will be remembered, is of the same race, being only a sub-variety of the Merino. Let a selection be made of one of each, which combines to the greatest extent, their perfections respectively. By taking the standard of Veit, as shown in his table, of the live weight of a pure Merino, say 88 lbs., and that of a pure Saxon, say 62 lbs., (which is nearly the comparative weight when pure,) the Merino, if fed at the rate of 2½ lbs. of hay per 100 lbs. of live weight, consumes 2.20 lbs. daily, and the Saxon 1.55 lbs., a difference, it will be noticed, of nearly 40 per cent. less than the Merino. Now, both being supplied with this pro rata of ration daily, the Merinos will produce 40 per cent. more of wool and flesh, at an expenditure, however, of 40 per cent. more of food. Thus it is clear that the pound of wool and flesh, in both cases, costs precisely the same. Hence it may be laid down as a rule by which the unwary may learn, that, after knowing the usual average weight of carcass and fleece of a given breed, if he hears of any very extraordinary individual instances of either, it may be ascribed to extra feeding, and a cost accordingly.

"Let not the reader, however, misapprehend the point in question. The breeds of sheep vary much in the quantity of wool they respectively produce, and individuals of a given breed will often outstrip their fellows, although fed in the same fold, in the amount of wool they will yield. But if two are selected of the same breed and of equal weight, and fed precisely alike, and all other circumstances equal, if one shears a heavier fleece than the other, it will be found, on weighing, to lack an equal amount of flesh, which his comrade has acquired at the expense of his covering. This has arisen from the difference in the assimilation of food—in the one case, more for the formation of wool than the other."

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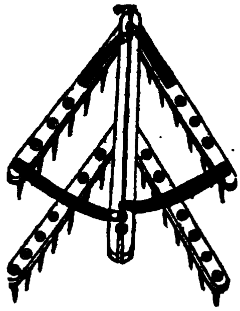
[*] Let it be understood by the reader that the point is *wool* and *flesh*, and not *fat*, which it will readily be conceded that several breeds of animals will gather more rapidly than others, arising either from improved conformation or more quietness of habit.

If I understand, Messrs. Editors, anything of animal physiology, I think Mr. Morrell's ideas are about correct, and if you will have the goodness to publish them, it may at least serve to allay the jealousy and warfare between Saxon and Merino breeders. A Sheep Man. *Venice, N. Y.*

Folding Harrow.



This form of harrow was introduced by George Geddes, Esq., of Onondaga county, in this state. The cut herewith given combines the general principles of Mr. G.'s harrow, but differs from his in the mode of fastening the teeth. He has the teeth driven through the timber from the upper side, and they hold by their wedge-like form. Those represented by the cut, are let through the timber from the under side, with a washer below, and a nut and screw on the top; by which the teeth are firmly secured in their places, and the liability of their being loosened or lost, is obviated. This harrow will work well on any kind of ground, but is greatly superior to the common kind on rough land, as its joints enable it to fit the inequalities of the surface. The following table shows the number of teeth in the several sizes, and their prices. In answer to an inquiry, we state that they can be had of H. L. Emery, Albany.

14 teeth, for one horse,	$8 00
18 teeth, for one or two horses,	9 50
22 teeth, for two light horses,	11 00
26 teeth, for two heavy horses,	13 00
30 teeth, for two or three horses,	15 00

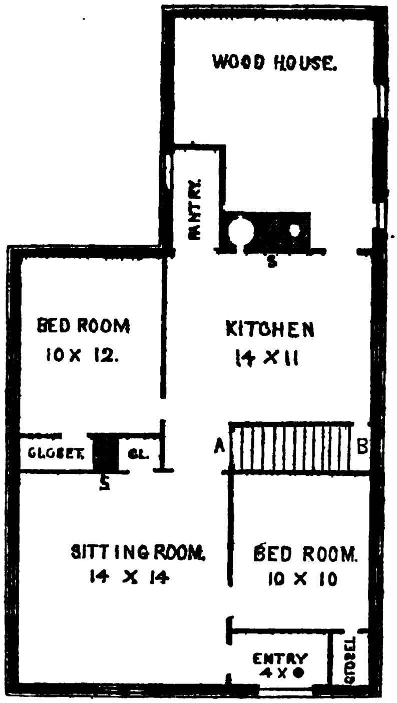
The Table-Land of Thibet.

An English traveller, Dr. J. D. Hooker, who has been for some time engaged in making various observations in Thibet, describes many interesting things in reference to the country and its inhabitants. The Thibetans are a pastoral people, roaming with their flocks and herds during the summer season, from place to place. The animal from which they derive their principal support is a peculiar species of the bovine tribe, called the Yak or Grunting ox. The milk of the females is used by the people for various purposes. It is made into curd, which is eaten with herbs and milk. Butter is also made from the cream; but the mode of churning is, perhaps, as *novel* as some of the modes for which patents have been granted. Dr. H. describes it as follows:—"They have two kinds of churn; one is a goat-skin in which the cream is encased and beaten, stamped upon, and rolled; the other is an oblong box, a yard in length, full of rhododendron twigs, frosted with butter and—maggots."

The Thibetans have ponies, some of which Dr. H. and his party rode. He says they "never missed a foot," in the worst places. "Sharp rocks, deep stony torrents, slippery paths, or pitch darkness, were all the same to them." They are described as "sorry looking beasts;" but it is stated that a Thibetan chief who weighed sixteen stone, (or 224 lbs.) rode one down a mountain slope of "thirty miles of rocks, stones and streams," and the animal showed no symptoms of fatigue.

A Mechanic's House.

This is a plan of a house built last year for a mechanic in an adjoining town. It is one story high, 24+28 feet, with an addition 14+16 feet, in which the chimney for the kitchen is built, containing an oven and arch kettle. There is no fire-place in the house, stoves being preferred. A. cellar stairs, B. chamber stairs, s. s. stoves. There is room in the chamber for 2 good sleeping apartments. The house is built with board walls clapboarded outside and plastered inside, making the walls solid, and of course there is no place for rats or mice. The windows are double, each sash containing four lights, each 9 by 14 inches. The cellar is 14 feet square, and 7 feet deep; the walls of split granite, pointed and plastered; the underpinning of split stone laid in the best manner. Whole cost about $500.



It will be seen that, for a small family, this house is very convenient. There is room enough for all practical purposes, and what is equally important, no waste room. The old fashion of building a large two story house *to look at*, and putting up a one story addition *to live in*, is becoming obsolete, and smaller, more tasteful and convenient dwellings are being built instead. If any one has a house built after a better plan than this, I—am glad of it. W. L. Eaton. *East Weare, N. H.*

Chiccory or Succory.

Coffee, as prepared for sale in the several countries of Europe, is said to be greatly adulterated by an admixture of the ground root of a plant called chiccory. The variety used for this purpose is called in France, *chiccoree de cafe*. It is supposed to have been derived from Egypt, where, as well as in Arabia, it is much used as human food. The adulteration of coffee by this substance, is thought by some to rather improve than injure the flavor of the coffee, and even to render it more wholesome. The demand for the roots for this purpose, has rendered its cultivation very profitable in certain districts.

The plant is also cultivated for forage, the tender stems and leaves being much relished by cattle and sheep. The plant is perennial, and will, it is said, yield good crops year after year, on the same ground. The *North British Agriculturist* gives the following directions in regard to its cultivation:

"To do justice, it should be sown on clean land, in good condition, to insure a fair return. After the land has received a deep winter furrow, and been twice plowed in spring, and perfectly clear of root weeds, we would recommend it to be sown in drills, at from 11 to 16 inches broad, according to the richness of the soil. The drills may be formed by a neat slight paring plow; from 4 to 5 pounds may sow an acre, as the plants, when left for food, should stand from 4 to 8 inches apart in the row. Some advise not to sow till May, as some of the plants, if sown earlier, may be apt to run to seed the first year. Should the plants be intended to remain for years to yield forage, a few plants running to seed the first season can do little harm. If the stems be cut over before they are far advanced, the root will receive little damage. We have found it a safe practice to sow about the middle of April; but where the root for grinding is the object, as they, in that case, are all to be taken up for use in the autumn, it may be as well to defer sowing till the end of April, after which period few will be found to run to seed the first season."

The best time Cutting Timber.

A pamphlet has been published under the supervision of A. S. ROBERTS, Esq., Corr. Secretary of the Philadelphia Society for Promoting Agriculture, in reference to the best time for cutting timber for fencing and other agricultural purposes. It embraces the substance of letters received from various persons, who had been requested to communicate the results of their observation on this subject. The writers do not profess to found their opinions on experiments conducted in such a manner as to fully settle the question; on the contrary, so far as conclusions are given, they are drawn from such facts as have fallen in the way of the respective individuals. For this reason, it is not, perhaps, strange that they should present great diversity—some being in favor of the winter as the best time, others the spring, others midsummer, and others autumn. Several, perhaps a majority, of the writers are in favor of June, or that part of the season when the bark will most easily peel off. Such has been the conclusion to which our own observation has tended. It may be here suggested as probable, that the general durability of timber cut at this season of the year, is attributable to its being divested of its bark as soon as cut, and exposed at once to the drying influence of the atmosphere, which soon evaporates the moisture, causing so great a shrinkage as effectually to close the pores, rendering it thereafter almost impervious to the agents of decomposition.

Mr. Roberts suggests the propriety of soaking fresh-cut timber in a solution of lime. He thinks the sap might in this way be displaced by a deposite of lime, or that the lime might combine with the acid of the sap, which would thus be neutralised and rendered inactive. The suggestion is reasonable and is not unsupported by actual results. Mr. R. quotes from what he considers a "well-written article by an anonymous correspondent" of the *American Agriculturist*, vol. viii, p. 274, in reference to the causes of decay in timber. That article was certainly "well written," and attracted our attention when it appeared *originally* in the London *Gardeners' Chronicle*, by whose editor, the celebrated botanist, Dr. LINDLEY, it was probably written. It had the signature of "B.," in the *Agriculturist*.

Strength of Wire.

As the subject of wire fences is now receiving considerable attention, and as inquiry has been made in regard to the strength of different descriptions of wire, we give the following table from an essay which lately received a prize from the Highland and Agricultural Society of Scotland. It shows the number of pounds each of the sizes of various kinds sustained before breaking. The lengths tested were ten feet. The wire called "common" was the ordinary wire of commerce, and is said to be made mostly from the coarser sorts of iron. The "prepared" wire is made from a finer description of iron, is more carefully manufactured, and is superior in quality to the former. "Charcoal" wire is considered the best and strongest of any of the qualities made. It is drawn from iron which is worked chiefly by wood charcoal. The "annealed" wire is considered "the very worst that can be put into a fence. From its being soft, it is readily stretched by any weight or pressure that may be brought to bear against it; and as a consequence is thrown from one side to the other, as stock may happen to touch it." It is said also, to oxydise, or rust more easily than any other kinds.

Common Wire.

No. 8 broke with 590 lbs. } Without perceptibly stretching.
No. 6 do. do. 844 do.
No. 4 do. do. 1269 do.

Annealed Wire.

No. 8 broke with 605 lbs.—stretched about 4¼ inches.
No. 6 do. do. 832 do.— do do 3 do.
No. 4 do. do. 1282 do.— do do 2 do.

Prepared Wire.

No. 8 broke with 955 lbs.—stretched about 1 inch.
No. 6 do. do. 1380 do.— do do ¾ do.
No. 4 do. do. 2163 do.— do do ½ do.

Charcoal Wire.

No. 8 broke with 1274 lbs. } Stretched about the same as prepared wire.
No. 6 do. do. 1702 do.
No. 4 do. do. 2656 do.

Good and Bad Management.

During a ride in our county not many weeks ago, I could but notice a noble looking orchard, of a hundred trees, planted more than twenty years ago, by the man who now lives upon it. Yet that orchard hardly produces good fruit enough to supply the family of the owner, and the sour dwarfed fruit is of no particular value for swine or cider. His neighbor not far off has an orchard some five years younger, of about half the size, and in a more unfavorable location; yet he supplies himself and many of his neighbors, and sells enough of his noble pippins and greenings to pay his hired men, and keep his bill for family groceries from accumulating. The secret of all the difference is, the latter man actually expended $5 in grafting that orchard, and has occasionally expended an hour's labor in pruning and cultivating those grateful trees.

During that ride, I saw a man feeding ten long, lank, lean swine, which will hardly furnish his family with pork, bacon and lard, for a twelve month. Before I had travelled five miles farther, I saw another man with seven, about the same age, and he will probably have nearly a ton of pork to sell.

Another man's fences, outbuildings and garden, were a disgrace to the man, a disgrace to the neighborhood, and to the county; while another as greatly honored himself in them all; thus making it apparent to my mind that a man can as signally honor or dishonor himself on a piece of ground only large enough for a garden, as on a farm of 100 or 500 acres.—*R. G. Pardee's Address.*

Dairying in St. Lawrence Co., N. Y.

Eds. Cultivator—Perhaps it may not be uninteresting to many of your readers to hear something from us, especially those at the west, who regard us as almost in the frozen region. I am inclined to think that many of the accounts of products from different parts of the country, that appear in your pages, are among that class of farmers who are both able and willing to expend more in their business than a great majority of farmers are able to do.

I have had 100 acres of land previous to last year. I now have 130 acres; have frequently cut from 70 to 80 or 90 tons of hay, and raised my own grain, and some to spare. My best crop of spring wheat (for I raise no other) 30 bushels per acre—China wheat. Last season was uncommonly dry with us, no rain at all having fallen for many weeks. The hay crop was light, and the pastures were dried up. Meadows after haying, dried and sunburnt—there being no after feed at all. Grain was light. Hay was sold this spring at $10 per ton, and then was drawn from 5 to 30 miles.

Bear these things in mind, as you read the amount of butter and cheese from my dairy last season. The cheese weighed from the press 8,343 pounds. Butter, twice thoroughly worked, 2,200 pounds. Number of cows in May, 25; bought in June and July, and sold in October. Average number about 28. Averaged nearly 300 pounds of cheese and 80 pounds of butter per cow. I reckon 3 pounds of cheese for each pound of butter, according to the estimate of some Ohio dairymen, which would equal about 534 pounds of cheese per cow.

I should like to hear from other dairymen in our county and in Vermont, through your columns. G. A. Hanchet. *Potsdam, May*, 1850.

On the Height of Corn.

Eds. Cultivator—In the year 1842, I travelled through a portion of the state of Ohio. The season was a poor one for corn. I measured three different fields on the Raccoon creek, in Licking county, and found it thirteen feet high. I was told that on the same soil, it grew sixteen feet in good seasons. I saw a field of two hundred acres on the bank of the Muskingum, near Coshocton, where the height was said to be the same as above.

The largest corn that I saw in my own state, that year, was between Syracuse and Fayetteville. It was eight feet high. This I have found to be the usual height of our best yellow corn in some of our most favorable seasons. There is one remarkable difference between the northern corn and the gourd seed varieties, which are cultivated in Ohio and farther south. The ear of the southern corn unites with the stalk *above* the centre of it, while our northern corn unites with it *below* the centre. C. E. G. *Utica.*

Sale of the Bates Short-Horns.

The public sale of this noted herd of cattle took place on the 9th of May last, agreeably to previous notice. We have not received a detailed account of the sale, but the following extract from a letter received from L. G. Morris, Esq., who attended as a purchaser, will show that several of the animals are to come to this country. The letter is dated Kirkleavington, May 10.

"The great Bates sale took place yesterday. The attendance was from three to five thousand, from almost all parts of the world. The average price was about 63 guineas, the highest price 205, and the lowest priced sound animal was 30 guineas. Mr. Colling's sale reached higher prices, but it was when England was in a more prosperous state than it now is; and the terms of sale more liberal than these.* Mr. Bates' heirs and executors are in chancery, and all business done through a receiver, who made the terms half cash down, and balance on delivery of the animals, which was to take place five or six days at farthest from the date of sale. The risk of the animals *immediately* on being struck down was to be borne by the purchaser. I purchased three head, and Mr. Becar of Smithtown, Long Island, purchased four head. I did not make my purchases until I had examined all the herds of any note in the counties of Yorkshire and Durham, which are the finest Short-horned sections in the world; and even then I did make my final selection until I had *re-examined* Mr. Bates' herd several times. The only animals I bid on, I purchased."

Farming in Rhode Island.

Mr. S. B. Halliday, of Cranston, R. I., gives an account in the *Providence Journal*, of the products of his farm for 1849. from which we take the following. The size of the farm is not stated, nor is the number of cows kept for the dairy, mentioned.

"Of potatoes, I have dug about 1200 bushels; turneps, 1200 bushels; carrots, 600 bushels; parsneps 200 bushels; table beet, 1000 bushels; mangel wurtzel, 500 bushels; spinnach, 300 bushels; tomatoes, 200 bushels; white cabbage, 20,000 heads; savoy cabbage, 25,000 heads; broccoli, 2000 heads; lettuce, 20,000 heads; egg plants, 400; salsify, (oyster plant,) 2000; rhubarb, (pie plant,) 3000 lbs.; asparagus, 1000 lbs.; pickles, 20,000; corn, 2000 bushels, ears; rye, 100 bushels; millet, 20 tons; green rye and clover, 40 tons; English hay, 10 tons; buckwheat, 3 tons; 250 lbs. spinnach seed; 200 lbs. beet seed; 40 lbs. of turnep seed. In addition to this, we raise nearly all our small seeds, such as celery, carrot, radish, &c. The dairy yields for the year, about 20,000 gallons milk."

The Cheese Trade.

Henry Kemp & Co., of New-York, have issued a circular in which it is stated that the supply of cheese brought to the tide-waters of the Hudson for the year 1849, was 42,097,818 pounds, against 43,278,526 pounds in 1848. The decrease the past year is artributed to the severe drouth of last summer in Western New-York and Ohio. The export of cheese to Great Britain from New-York, is said to have reached last year 12,000,000 pounds, against 15,386,836 in 1848, being a decrease of one-fifth.

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* At the sale of Mr. Charles Colling's herd, in 1810, 47 animals brought £7115.17s. The highest price for bulls was 1000 guineas, for Comet; and the highest price for cows was 410 guineas, for Lily. Another bull, Petrarch, brought 365 guineas; and the cow Countess 400 guineas. Eds.

This decrease is attributed to the inferior quality of the cheese. Of good cheese probably double the amount exported last year would be taken by Great Britain. The receipts of cheese at New-York in 1834 were only about six million pounds, from which they have gone on in a regular gradation of increase to 1848, when 43,278,526 pounds were received. The exports to Great Britain commenced in 1840 with seven hundred thousand pounds, and have increased to fifteen million pounds in 1848.

Water Lime, &c.

Eds. Cultivator—I should like to be informed how water lime, or the common cement used in laying stone to guard against water, will do on wood. Will it do to plaster a coat of it over the roofs of old buildings? If so, what is the mode of preparation? Do you prepare the mortar different from that used in laying stone? I should like advice also on the subject of laying water lime pipe, to conduct water for common watering purposes. What are the advantages and disadvantages of this kind of pipe, as compared with lead pipe? And, lastly, what can I do to prevent plum and cherry trees from blistering, or raising black bunches, and what is the remedy to restore them to soundness? J. A. Cheney.
Cooperstown, May 19, 1850.

Rotation of Crops.

Edmund Ruffin, Esq., of Marlbourne, Va., a successful farmer and well-known writer on the subject of agriculture, gives the following as a rotation which he has practiced with advantage:

1st year—Corn, (on grass land, grazed the preceding year until July or August only,)—and secondary crop of peas, planted or sown among the growing corn.

2d year—Peas, sown broad-cast, and plowed under in September, for

3d year—Wheat on pea-fallow—clover sown.

4th year—Clover—(which receives all the stable and barn-yard manure)—first growth mown, where fit, and second plowed under in August and September, for

5th year—Wheat on clover fallow.

6th year—Pasture, from spring until the wheat fields are cleared to admit the grazing stock.

To Plow in Clover, Weeds, &c.

Those who have undertaken to plow in green crops, know the difficulty frequently attending the operation, on account of the liability of the plow to be clogged, and the vegetable matter being left uncovered. A correspondent of the *American Farmer* gives the following description of a contrivance he has adopted, which is stated to answer the purpose completely: Saw off a block from some hard, durable, and heavy wood; say about ten inches long, and three and a half or four inches in diameter; then take a piece of trace chain, about three feet long, confine one end to the block, by driving a small staple in the end, having first passed the staple through an end link of the chain. Point the other end of the block, and attach a larger chain in the same manner to that. Tie the short chain (attached to the square end of the block,) to the rod which passes through the mould-board and beam of the plow, by wrapping it around the beam at that place; drop the block in the bottom of a furrow which has been already opened, (of course on the mould-board side,) draw up the long chain, and attach that to the clevis pin or clevis;—be sure that you have both chains just tight enough to permit the block to lie in the furrow; allow no slack. The short chain gathers the clover, weeds, &c., and bends them down; the weight of the block prevents the chain from rising, and the plow laps the dirt over the weeds, whilst they are in a recumbent position. I am this day turning under weeds as high as the heads of the plowmen, who are almost wholly concealed.

Saving Clover Seed.

Eds. Cultivator—In the January number of the *Cultivator* is an inquiry from C. W. Cathcart, respecting the saving of clover seed at the East. I will give you our mode in Litchfield county, Conn. At the proper time for securing the crop, we go with our scythes and mow when the dew is on, being careful to stop as soon as the dew is off. In cloudy or foggy weather we mow all day. We let it remain in the swath until it is cured, then rake it into winnows, and roll it into small heaps while it is damp with dew. In the after part of the day, thrash or tread it off from the straw, either on the barn floor or on a bed made in the field for the purpose. If it is threshed in the field, it will be necessary to take up the chaff every night, as it gathers moisture from the ground, which greatly retards the cleaning. We consider it best, when we can, to use the barn floor, and let the seed remain until we finish the field. By keeping the chaff level on the floor, we can work to advantage until the chaff accumulates to the depth of three feet or more.

The greatest difficulty, in treading it from the straw with cattle or horses, is the time required to shake the chaff from the straw, so that it will not be thrown out with the straw; but in my opinion it is decidedly best to use oxen in thrashing. In this way a load the size of a ton of hay can be thrashed at three or four floorings, and three turnings to each flooring will make it entirely clean. We then carry the chaff to the mill, where it is cleaned in good order for market, for one dollar per bushel. The machine is manufactured by Harmon Baldwin, Esq., of Washington, Litchfield county, Conn., and was put up and set running in this vicinity, for (I think) $120. The machine requires but a small power to carry it, probably not an eighth of that required for a run of provinder stores. A Subscriber.

Harvesting Grain.

Eds. Cultivator. — Grain Harvesting is an important business of the farmer, and when the season for performing it arrives, every other business should give place to it. From observation, I am satisfied that farmers generally let their grain stand too long before cutting. When left to get ripe, a great deal shells out and wastes in the harvesting; but if cut when the straw is green, this waste is saved, and the flour is of better quality, and the grain is heavier, as has been proved by experiment. In good weather, wheat and rye may be taken up in one day from the cradle or sickle, bound in convenient bundles, and set up in shocks of four, ten, or twelve bundles each. With wheat or oats two bundles may be laid, crossing each other on the top of the shock, which will serve to shed off the rain. With rye, a shock of bundles set up with the butts well braced, and no cap sheaf set on, is found to cure better, and in case of a long storm, is less liable to sprout than when shocked in the old way with a cap-sheaf. Grain shocks will generally cure in from eight to ten days of ordinary hay weather; and as soon as cured, let them be secured. I have known persons to let their grain stand from four to six weeks in the shock, and whenever I see such management, I am always inclined to think that such persons think or care but little for improved farming. L. Durand. *Derby, Ct., June* 4.

Domestic Economy, Recipes, &c.

Preserves and Jellies.*

General Directions.—Gather fruit when it is dry.

Long boiling hardens the fruit.

Pour boiling water over the sieves used, and wring out jelly bags in hot water the moment you are to use them.

Do not squeeze while straining through jelly bags.

Let the pots and jars containing sweetmeats just made, remain uncovered three days.

Lay brandy papers over the top, cover them tight and seal them, or, what is best of all, soak a split bladder and tie it tight over them. In drying, it will shrink so as to be perfectly air-tight.

Keep them in a dry, but not warm place.

A thick leathery mould helps to preserve fruit, but when mould appears in specks, the preserves must be scalded in a warm oven, or be set into hot water, which then must boil till the preserves are scalded.

Always keep watch of preserves which are not sealed, especially in warm and damp weather. The only sure way to keep them without risk or care, is to make them with enough sugar and seal them, or tie bladder covers over.

Strawberries.—Look them over with care. Weigh a pound of sugar to each pound of fruit. Put a layer of fruit on the bottom of the preserving kettle, then a layer of sugar, and so on till all is in the pan. Boil them about fifteen minutes. Put them in bottles, hot, and seal them. Then put them in a box, and fill it in with dry sand. The flavor of the fruit is preserved more perfectly, by simply packing the fruit and sugar in alternate layers, and sealing the jar, without cooking, but the preserves do not look so well.

Currants.—Strip them from the stems. Allow a pound of sugar to a pound of currants. Boil them together ten minutes. Take them from the syrup, and let the syrup boil twenty minutes, and pour it on the fruit. Put them in small jars or tumblers, and let them stand in the sun a few days.

To Preserve Currants to eat with Meat.—Strip them from the stem. Boil them an hour, and then to a pound of the fruit, add a pound of brown sugar. Boil all together fifteen or twenty minutes.

Currant Jelly.—Pick over the currants with care. Put them in a stone jar, and set it into a kettle of boiling water. Let it boil till the fruit is very soft. Strain it through a sieve. Then run the juice through a jelly-bag. Put a pound of sugar to a pint of juice, and boil it together five minutes. Set it in the sun a few days.

Cherries.—Take out the stones. To a pound of fruit, allow a pound of sugar. Put a layer of fruit on the bottom of the preserving kettle, then a layer of sugar, and continue thus till all are put in. Boil till clear. Put them in bottles, hot, and seal them. Keep them in dry sand.

Raspberry Jam—No. 1.—Allow a pound of sugar to a pound of fruit. Press them with a spoon, in an earthen dish. Add the sugar, and boil all together fifteen minutes.

Raspberry Jam—No. 2.—Allow a pound of sugar to a pound of fruit. Boil the fruit half an hour, or till the seeds are soft. Strain one quarter of the fruit, and throw away the seeds. Add the sugar, and boil the whole ten minutes. A little currant juice gives it a pleasant flavor, and when that is used, an equal quantity of sugar must be added.

Answers to Correspondents.

Bark Lice.—A. B. P., Boone Grove, Ind. The insects you send are a species of bark louse—*Coccidæ*. They are very common on apple trees in most parts of the country, and are supposed to have been introduced here from Europe. The best description we have seen of the insect, is given by Dr. Harris, in his "*Insects Injurious to Vegetation*." He says—"The limbs and smooth parts of the trunks of apple trees are sometimes completely covered with these insects, and present a very singularly wrinkled and rough appearance from the bodies which are crowded closely together. In winter these insects are torpid, and apparently dead. They measure about one-tenth of an inch in length, and are of an oblong, oval shape, gradually decreasing to a point at one end, and are of a brownish color, very near to that of the bark of the tree. . . . . In spring, the eggs are readily to be seen on raising the little muscle-shaped scales, beneath which they are concealed. These eggs are of a white color, and in shape very nearly like those of snakes. Every shell contains from thirty to forty of them, embedded in a small quantity of whitish friable down. The young on their first appearance are nearly white, very minute, and nearly oval in form. In about ten days they become stationary, and early in June throw out a quantity of bluish-white down, soon after which their transformations are completed, and the females become fertile and deposit their eggs. These, it seems, are hatched in the course of the summer, and the young come to their growth and provide for a new brood before the ensuing winter."

The time when these insects hatch depends, of course, on the climate or location. Some of the insects sent us from Indiana, were hatched when they arrived here, 20th of April.

As to remedies, Dr. Harris observes: "The best application for the destruction of the lice, is a wash made of two parts of soft soap and eight of water, with which is to be mixed lime enough to bring it to the consistence of thick white-wash. This is to be put on the trunks and limbs of the trees with a brush, and so high as practicable, so as to cover the whole surface, and fill all the cracks in the bark. The proper time for washing over the trees is early in June, when the insects are young and tender. The insects may also be killed by using in the same way a solution of two pounds of potash in seven quarts of water, or a pickle consisting of a quart of common salt in two gallons of water."

Cultivation of Tobacco.—"A Subscriber," Great Barrington, Mass. You will find much information in regard to the culture of tobacco in the valley of Connecticut river, in our volume, for 1844, p. 89; and in that for 1847, pp. 361, 362.

Kinds of Grass for Michigan.—"Experienced Farmer." If the soil of the "oak openings" is pretty rich, the Kentucky blue-grass (*Poa*

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* From Miss Beecher's Domestic Receipt Book.

pratense) will probably grow well. If sown by itself, one bushel of seed will be required. Try red-top (*Agrostis*) with white clover (*Trifolium repens*) a bushel of the former with three quarts of the latter. Red-top will also do well to mix with clover for hay. Sow the medium or southern clover, ten pounds to the acre, with half a bushel of red-top seed. Timothy, as you say, is inclined to die out on very dry land, and none of the grasses will last as long here as in soil that is more moist. For shady or wood-land pastures, sow Kentucky blue-grass, and orchard-grass (*Dactylis glomerata.*) If mixed together, use half a bushel of the former with a bushel of the latter.

Facts and Opinions.

(*Condensed from Books and Papers.*)

SUBSOIL PLOWING. — A correspondent of the *Agricultural Gazette* says he formerly made a point of plowing at least ten inches deep when preparing for turnops; but he is more successful in growing them by keeping the manured soil near the surface, and loosening the substratum with the subsoil plow, going about seven inches deep with the first plow.

FOUR CALVES AT A BIRTH.—B. GATES, of Merewether county, Georgia, writes to the *Columbus Inquirer*, that on the 9th of February a cow of his brought forth four female calves, all alive and well. Two calves at a birth are not uncommon, three are very rare, but four are so far out of the usual course, that the occurrence deserves to be recorded.

A VALUABLE COW.—HENRY JENNISON, of West Newton, Mass., gives the *Plowman* an account of the product of his cow for one year, or from April 2d, 1848, to the same period in 1849. First, he sold her calf at four weeks old for six dollars, then thirty gallons of milk at ten cents per gallon; made three hundred and sixty-eight pounds of butter, which sold on an average at twenty-four and a-half cents per pound; during winter sold twenty-four gallons of milk at fourteen cents per gallon. No estimate was made of milk used in a family of three persons. The cow had one acre of pasturage, and was fed with one quart of meal per day for two months, with green corn in the driest of the season; and after haying, was turned into "full feed." The income may be stated thus:

Calf, ...	$6 00
30 gallons milk, ...	3 00
368 lbs. butter, ...	90 06
24 gallons milk, ...	3 36
	$102 42

NEW JERSEY MARLS.—It is well known that certain sections of New Jersey have been greatly improved in regard to the productiveness of the soil, by the application of marl. In Monmouth county, according to Professor MAPES, in the *Working Farmer*, "lands which ten years ago were worth but ten dollars per acre, are now producing large crops, simply by coating them with a few bushels of marl, taken from within a few feet of the surface." This marl we understand to be what is called *green sand*. Professor M. states that some of it contains 13 per cent of potash, and that the quantity required to fertilize an acre, does not exceed one hundred bushels. Some of the marls, however, are said to contain an excess of sulphate of iron, and when they are applied in large quantities, injure vegetation. Professor M. observes "that the continued use of marl, while it supplies many of the inorganic constituents of plants, must eventually cause the disappearance from the soil of all its inorganic matter, and hence the necessity of its renewal from time to time by the additions of decomposed peat, turf, river mud, and other organic matters."

SOUND ADVICE.—Rev. MORRILL ALLEN, in resigning his post as president of the Plymouth, Mass., Agricultural Society, says—"My strong desire that your future labors may be attended with distinguished success, prompts a caution against concentrating efforts in a few specific and favorite objects; let every branch of the farmer's interest attract attention, and in the just measure be taken under your patronage. Endeavor to walk in the light of science, but prize cheaply theories not reducible to practice. In the numerous speculations on various agricultural topics, which abound at the present time, we are in danger, without great caution, of being led into errors. Speculative minds in the ardor of inquiry, often forget that in practical life facts should always take precedence of theories. Use with vigilant care the varied means of scientific improvement now enjoyed, and practical improvement will be proportionably accelerated."

FIRST COUNTY AGRICULTURAL SOCIETY IN THE STATE OF NEW YORK.—By the following paragraph from a "Historical sketch of the Village of Watertown," given in the *Business Directory* for that place, published by N. L. BURDICK, it appears that Jefferson county was the first in the State to establish an Agricultural Society. It has been kept up with great spirit, and has been an important instrument in advancing the prosperity of that enterprising county:—"The agricultural interest of Jefferson embarked early in measures to elevate the important labors of that branch of industry to a higher scale of efficiency and usefulness. In 1818, in Watertown, in a building on the site of the American, was organised the first County Agricultural Society ever established in this State. JAMES DE LE RAY CHAUMONT delivered the address. That distinguished stastesman and patron of learning, public improvement, and agriculture, DE WITT CLINTON, was also present, and spoke in support of the views and objects of the Society. Guided and sustained by the sagacity and public spirit of the farmers of this county, the society has continued to flourish, and its annual fairs will not suffer by comparison with similar exhibitions throughout the State."

EXPLOSION OF AIR-TIGHT STOVES.—Prof. HORSFORD, in a paper lately read before the "American Academy of Arts and Sciences," thus explained the phenomenon of the explosion of the so-called air-tight stoves. It is proper to remark that these accidents are latterly of rare occurrence, and with the self-regulating valve, which is now attached to the best of these stoves, it is believed such accidents would never happen. "After the wood has been fired, and the supply of air for some time shut off, on re-opening the draft, and sometimes without, occasional explosions of great violence have occurred, attended with the blowing out of the stove door, and in some instances producing still greater injury to the stove. The probable explanation is this. After firing the wood and shutting off the draft, destructive distillation commences. Inflammable gases issue from the wood, which, mingling with air derived from the pipe or remaining still unconsumed, furnish an explosive mixture, which the first jet of flame, or perhaps the incandescent coal, causes to explode."

Notes for the Month.

Communications have come to hand, during the past month as follows: J. A. Cheney, A Subscriber, J. W. G., An Experienced Farmer, D. T., James Tufts, W. L. Chambers, H. Wetherwax, G. A. Hanchett, An Old Farmer, A Subscriber, L. Durand.

Books, Pamphlets, &c., have been received as follows:

The Philosophy of Electrical Psychology, by John B. Dods—from the publishers, Fowlers & Wells, New-York.
Analysis of the Apple, by J. H. Salisbury, M. D.—and Analysis of the Rhubarb, by the same—16 pages 8vo.—from the Author.
First Report of the Geology of Alabama, by Prof. M. M. Tuomey, Geologist to the State, &c., from Gov. Collier.
Report of the Maryland State Agricultural Chemist, James Higgins, M. D., for the past year.
Fourth Report of the Board of Agriculture of Ohio, from J. L. Cox, Esq., Zanesville.

A. B.—We shall be glad to have you continue the subject, as you propose.

The American Fruit Culturist.—This work has been mailed to every agent entitled to it by our terms. The postmaster at Philadelphia stopped those which should have passed through his office, on the ground that books had no right to go by mail. He, however, informs us that he has, at our request, forwarded the copies which were detained at his office. But if any person entitled to the work, has failed to receive it, we will forward a second copy on being apprised of the failure.

Correction.—In our last, the price of Professor Norton's "Elements of Scientific Agriculture," was stated at 75 cents. It should have been 50 cents.

The Plow, Loom, and Anvil.—The third volume of this periodical commences with August. The well-known industry and energy of its editor, J. S. Skinner, Esq., continue unrelaxed, and its pages are well filled with useful matter. It is published monthly, at $2 a year, in advance. J. S. Skinner, Philadelphia, Editor and Publisher. See advertisement.

The Difference.—Mr. J. S. Craig, of Madison, Ind., speaking of the failure of the wheat crop in his neighborhood, last year, says—"One man told me he had sown six bushels. and did not gather the amount of the seed. I replied, 'I have done better than that, my crop having averaged 15 bushels per acre; to which he said—'O, a poor man, with a large family, can't afford to put his land in such nice order as you had yours;' 'but,' said I, 'the chief difference between us is, I feed my corn fodder in the stables and yards, you feed your's in the roads and lanes.' Would you believe it! I have three adjoining neighbors, who feed their cattle in the road and lanes, if it happens to be in the most convenient place, and don't seem to care about the loss of manure. Yet their rotation is corn, oats, wheat, without allowing the land any rest in clover or grass, and giving it but very little manure, till it has almost refused to produce wheat. I find, now, the opinion is almost universal, that it is useless to sow wheat, without manuring the land in some way."

Breed of Swine.—Mr. O. F. Marshall, of Wheeler, Steuben co., N. Y., writes: "We have a peculiar kind of hogs in this section, which have been bred here over 50 years. They became nearly extinct about the time the Berkshires were so popular; but we have, with a good deal of exertion, restored them about as pure as formerly. They are similar in shape to the Berkshires, but their color is red or sandy, and they have very fine hair. When pure-blooded, the tails of the pigs come off, when about three or four weeks old. They were introduced here by the late judge Hammond, father of S. H. Hammond, Esq., district attorney for Albany county."

Agricultural School in Massachusetts.—The following gentlemen have been appointed by the Governor of Massachusetts commissioners on the subject of an agricultural school, viz: Hon. M. P. Wilder, Dorchester; Rev. Dr. Edward Hitchcock, President of Amherst College; Samuel A. Eliot, of Boston; Eli Warren, of Upton; and Thomas E. Payson, of Rowley.

Transplanting Locust Trees.—A correspondent informs us that the sprouts of locust trees, if taken up in the spring, and set in open places in the woods, will grow well, and become valuable for timber. We have heard it said that locust trees planted in this way are not likely to be attacked by the borer.

☞ The figure of "Third Duke of Cambridge," given in our present number, was engraved for the forthcoming volume of the Transactions of the New York Agricultural Society. We are authorized to say that this volume, the publication of which has been unavoidably delayed, will shortly make its appearance.

Royal Agricultural Society.—The Council of this Society have made arrangements to hold their annual show of cattle for 1851, in Hyde Park, in connection with the Exhibition of the Works of Industry of all Nations. The usual show of implements by the Society will be omitted on that occasion, as the Exhibition will comprise a similar department. The show of the Royal Society for the present year will be held at Exeter in July, commencing on the 15th. This Society at the present time comprises 5,261 members: namely, 90 life governors, 169 annual governors, 267 life members, 4,356 annual members, and 19 honorary members.

Correction.—In the communication of "A. S. F." in our May number (pp. 181, 182,) it was stated that chloride of lime was used for seed corn, in the proportion of half of the former to a bushel of the latter. It should have been *half a pound* to a bushel of seed; and the distance between the corn-rows should have been *three* instead of three and a half feet.

Tax on Dogs.—It is well known that the keeping of sheep in Ohio has been attended with heavy losses in many instances, on account of their destruction by dogs. After several ineffectual attempts to procure the passage of a law by the legislature, authorizing a tax on dogs, an act was passed at the last session, authorizing seventeen counties to collect the sum of fifty cents a year from every person who owns or keeps one dog, and one dollar for each additional dog kept by the same person. One-half of the money raised by this tax is to go to the common school fund, and the remainder is to be set apart to compensate persons sustaining losses by having sheep killed by dogs.

Thibet Sheep.—Prince Albert has sent a communication to the Council of the Royal Agricultural Society, giving the results of an attempt to naturalize a hardy and prolific race of sheep from Thibet, at her Majesty's farm at Osborne.

"Lionizing."—Thos. D. Burrall, Esq., in his address before the Ontario county Agricultural Society, observes—"The whole system of *lionizing*, and *running after sights* is a national vice which has too often made us ridiculous, and which should especially be avoided at our *Fairs*, lest they eventually become so mixed up with new additions as to have nothing left to the farmer but the name. They should look to this in time, and never forget to respect themselves and protect their interests. Ever bearing in mind that as a class they form an important part of the great conservative power of the State, and that they are bound to make that power felt and respected."

NEW WORK.—Messrs. DERBY & MILLER, booksellers, Auburn, will issue soon a new work on rural affairs, entitled "The Farmer's Every Day Book; or, Sketches of Social Life in the Country, with the Popular Elements of Practical and Theoretic Agriculture, and 1,200 Laconics and Apothegms relating to Ethics, Religion, and General Literature; also 500 receipts on Hygeian, Domestic and Rural Economy.

> "Would you be strong? Go follow up the plough;
> Would you be thoughtful? Study fields and flowers;
> Would you be wise? Take on yourself a vow,
> To go to school in Nature's sunny bowers.
> Fly from the city, nothing there can charm—
> Seek wisdom, strength and virtue on a farm."

We intended to have given a chapter from it this month, on "The Commercial Importance of Agriculture," but are under the necessity of deferring it. From the high character of the author, as well as from the few pages we have seen of the work, we have no doubt it will have an extensive sale.

THE ONEIDA COUNTY AGRICULTURAL SOCIETY will hold its next fair at Rome, on the 17th, 18th. and 19th days of September. This, we believe, is the first instance of one of our county fairs continuing three days, and we are glad to see that the farmers of this rich and fertile county take sufficient interest in the subject to warrant a three-day fair. BENJ. N. HUNTINGTON, Rome, President. L. T. MARSHALL, Vernon Center, Secretary.

LONG ISLAND LANDS.—The attention of farmers intending to change their location, is particularly invited to the advertisement of Dr. PECK, setting forth the inducements offered by the lands on Long Island.

PRICE OF MUSTARD SEED.—The editor of the *Ohio Cultivator* states that 6¼ cents per pound is the price at which manufacturers in Ohio are willing to contract for good seed, next fall. A letter is published from Messrs. FELL, of Philadelphia, stating that owing to the fluctuations in the market, and generally low prices, they do not recommend the cultivation of mustard on a large scale, to the western farmers, especially, "as long as the foreign seed is admitted at the present rate of duty."

HEAVY PIGS.—BENJ. LYMAN, of Columbia, Ct., gives the *Mass. Plowman* an account of the weight of several pigs killed in that town since the first of December last, as follows:

Hubbard Barstow	killed a pig	8	months old,	weight	360	lbs.
Jonathan Clark	" "	9	"	"	387	"
John Davenport	" "	8½	"	"	390	"
John Ticknor killed an old hog,				"	610	"

ANIMALCULES ON HUMAN TEETH.—Dr. H. J. BOWDITCH, of Cambridge, Mass., states as the result of many microscopic examinations of the accumulations on the teeth of healthy persons, that of forty-nine individuals, most of whom were very particular in the care of their teeth, animal and vegetable products were found in every instance except two. In those cases the brush was used three times a day, and a thread was passed between the teeth daily. Windsor soap was also used by one of these two persons, with the brush. Dr. Bowditch tried the effect of various substances, in destroying the animalcules, and especially tobacco, by which they seemed to be in no way incommoded. Soapsuds and chlorine toothwash invariably destroyed them.

INDUSTRIAL EXHIBITION OF 1851.—Preparations are already in progress for the transmission of the productions of American genius and ingenuity to the approaching great Industrial Exhibition which takes place in 1851 in London. A meeting of the Central Committee for the United States convened at the National Institute, in the Patent Office, Washington, on Thursday, the 13th ult., Hon. Millard Fillmore presiding, and Prof. W. R. Johnson acting as secretary. Among the various communications read at the meeting, was one from the secretary of a former meeting, held on the 27th of last month, containing the names of those appointed on the Central Committee, among which are the following: Hon. Millard Fillmore, Hon. Levi Woodbury, Professors Joseph Henry and Alex. D. Bache, Com. C. Wilkes, Lieut. M. F. Maury, Col. J. J. Abert, and Thos. Ewbank, and others, 21 in number.—*N. Y. Evening Post.*

RED CEDAR POSTS.—All kinds of Cedar are known to be very durable, but the heart of red cedar is perhaps, preferable on this account, to any other kind, and those parts of the tree which are most knotty, will probably last longest. E. BOURNE, in the *Mass. Plowman*, states that on examining some red cedar posts set by his father 48 years since, he found those which were taken from the butt-end of the tree, a little decayed on the outside; but those from the second and third cuts of the tree, were perfectly sound.

PROFITS OF FOWLS.—BRADFORD PACKARD, of West Bridgewater, Mass., states in the *Plowman* that he kept an accurate account with twenty fowls, (eighteen hens and two cocks,) for one year, from January 1st, 1849. He obtained 2434 eggs, the average price of which was fourteen cents per dozen, making $28.90; he raised twelve chickens, valued at 25 cents each, giving an aggregate of $31.89. The food the fowls ate during this time was 15 bushels of corn, which cost $10.89, leaving a net profit of $21.01.

TO DECOY RATS.—Mix a shilling's worth of Spanish flies in a pint of the best French brandy, cork it well, and after shaking, let it stand six weeks, and it will be fit for use. A few drops of this liquid is said to entice the rats from their holes into any kind of trap.

Wool Market—June 19, 1850.

The shearing has actively progressed for the two past weeks, and is now nearly completed, excepting in the northern portion of this and some of the Eastern States. The appearance of a much dreaded epidemic in the spring of 1849, caused a general paralysis in the business of the country, and greatly aided in depressing the prices of wool, more particularly in the Western States. The absence of cholera, general prosperity of most business pursuits, and abundance of money facilities in the large northern and eastern cities, have produced a very different feeling in regard to the clip of 1850, and especially in the Western States, as contrasted with 1849, although the prices of cloths are about the same now as one year ago. The advance of wools in the Northern and Eastern States, compared with 1849, is from 2 to 3c.; while in Ohio, Michigan, and other Western States, it is from 4 to 6c. per lb. The excitement in the Western market has been and still is very great, growing out of the competition amongst buyers, in combination with the causes abovementioned; and purchases have been made on speculation at so high rates, as to leave no margin for profits; and it will be fortunate if, in many instances, actual losses are not sustained. No reliable estimate can be made of the quantity of wool shorn, until near the close of the year. The opening prices, so far as they can now be ascertained, are as follows:

Common to ¼ blood Merino,	25a27c.
¼ to ½ do.	28a30c.
½ to full do.	31a35c.
Full blood Saxon,	36a40c

Prices of Agricultural Products.

[*Review of the Market for the last month.*]

ALBANY, JUNE 20, 1850.

FLOUR.—Since our last report there has been a good steady trade, and Eastern demand for flour, but with little or no speculative movement. The upper tendency of quotations noticed in our May report, continued till the early part of the present month, when for a day or two the market became weaker, but subsequently rallied again. This fluctuation which has been regulated solely by the tone of the N. Y. Market, is ascribed on the one hand mainly to the uncertain character of the reports of probable receipts from the West, which hitherto have proved larger than was anticipated, and on the other to the active demand at that market for the Eastern trade, for New Orleans, and for Canadian, and low grade State flour for the British Provinces The market here may be quoted at $5.44a$5.56¼ for ordinary to good state, $5.62½ for mixed western, $5.69a$5.75 for straight do., $5.87½a$5.94 for fancy do. and state from good Western Wheat, $6a$6.12½ for Genessee, $6.12½a$6.25 for fancy Genesee and Ohio, $6.37½a$6.75 for extra Genesee. These quotations show a considerable advance upon those given in our May report. The stock of flour here is good, consisting principally of the better brands of State and Western flour.

GRAIN.—The supplies of prime Genesee wheat during the month, although larger than those of the previous month, have been small; the milling demand for these descriptions has been good, taking all offering at an advance of 16a18c. on the closing quotations in our May report; the sales are 13.000 bushels principally Genesee, at 115c. for Wisconsin to arrive, 132a138c. for Mediterranean, and including some 10,000 bushels Genesee at 137a150½c., the market to-day being very firm at 150c. for prime Genesee, and 148c. for a prime lot of Lancaster Co., Penn., both to arrive within a day or so, with a good demand, buyers offering 147c. for Genesee. In corn there has been a good demand which has been checked by the light receipts. The supplies which have been kept back several days by the break at Bushnell's Basin. are now coming in, and a more active market is anticipated. The improving tendency noticed in this article in our May report, continued to the 1st inst., when Northern round Yellow sold at 69c. and Western mixed at a trifle off that figure; the market retained its firmness for some days, but for want of supplies nothing was done; and after the receipt of the unfavorable advices from Europe, by the Atlantic on the 9th, and the Canada on the 13th inst., prices gradually fell off, the market closing yesterday at 60a60½ for Western low and high mixed, and 60½ for flat yellow. Northern Yellow round unless in prime condition is not taken, and may be quoted at 62a62½c. numerally. The sales since our last are 200,000 bush. including 25,000 bush. Western mixed, reported sold yesterday for delivery in all August at 56c., and 20,000 do. in two lots on the 28th ult. to arrive, at 66½c. The tendency of the market at the close, was to a further decline. Rye has been more active, and prices have varied with the quotations of other grains. The market has ranged from 62½a65c, which latter point it reached on the 31st ult., and subsequently declined to 60½c., at which figure it sold on the 18th inst. The sales of canal are 25,000 bush. In barley we notice sales of about 6,000 bush., two rowed at 65c. Oats have been active, with a good speculative demand; the sales here and to arrive, since our last, have reached 120,000 bush., including 40,000 bush. to arrive on private terms. The balance taken in lots as they arrived, closing at 47c, with a steady demand. The highest figure obtained since our last report, was on the 1st and 2d inst., when 52c. was paid.

FEED.—The high price of the course grains has produced a demand for feed; the inquiry is good, but the high figures asked restrict sales. The transactions are about 30,000 bush.; 13a14c. for bran, 15c. for shorts, 17½c. for Port Byron shorts, 19a25c. for second quality fine feed, and 103c. for middlings.

SALT.—The sales of bag salt embrace 22,000 bags at 11c.; barrels are lower, and sell to some extent at 100a103c; we also notice sales of 300 to 400 sacks, Liverpool at 130c. per sack.

WHISKEY.—The limited quantity offering restricts sales. The transactions reported are about 900 brls. The market is now dull at 26c., at which figure the last sales were made. Buyers offer only 24c. for S. P. The highest quotation reached this month was 26½c.

WOOL.—The sales since our last report have been very limited; some 10,000 lbs. were taken at 34c. for super., and 31c. for No. 1 pulled. The lots of the new clip offering in the street are taken at 26a34c., according to grade.

PROVISIONS.—The sales of Mess Pork during the month have been about 800 brls. Stale Mess, principally on private terms, and part at $12.25a12.50 for State Mess, and $11 for Western. Beef Hams $15.50, with sales 106 brls. The sales of cut meats have been to a fair extent; the transactions add up some 80,000 lbs. at 8c. for smoked hams; and 4¾a5¼c. for do. shoulders. There have been further sales of live hogs at 3½a3¾c.

Morgan Horse General Gifford.

THIS justly celerated horse will stand the coming season at Lodi Village, Seneca County, N. Y. He was got by Old Gifford Morgan, out of a pure Morgan mare. In his size, color, form and action, he closely resembles his distinguished sire, and is one of the very best specimens of this invaluable race of horses.

Terms of insurance, $12.

Good pasture provided at the usual rates, and all necessary attention given to mares from a distance.

Accidents and escapes at the risk of the owners.

May 1, 1850—3t. CHARLES W. INGERSOLL.

The Plow, the Loom and the Anvil

IS a Monthly Journal of never *less* than 64 pages, beautifully printed, on the best paper, and conducted by J. S. SKINNER, founder of the first agricultural journal published in the United States.

The object of this journal is to teach the Farmer and the Planter, not only what is transpiring to improve *practical* agriculture, but t prove to them, by argument and illustration, how the prosperity o American Agriculture is blended with, and promoted by, the prosperity of *all other Industrial pursuits in our own country.*

The following are taken from hundreds of the like, to show th bearing and merits of the work.

The July (1850) number will be the first of the next (third) volume, and will be a good time for subscribers to commence. Back volumes to be had.

P. S.—Particular attention is paid to the woolen and iron interests as connected with Agriculture.

Hillsborough, Ohio, 6th February, 1850.

* * * I will only add that the zeal and ability with which "the Plough, the Loom, and the Anvil," has been conducted thus far, and the *promise* it affords for the triumph of the principles it advocates, *demand* of its *patrons*, and the *friends* of *protection* and *national prosperity* and *independence*, everywhere, *renewed* and more *persevering* efforts to extend its circulation, and, as I would not recommend others to do what I would not do myself, I engage and hereby pledge myself to be one of 1000, or 100, to procure five new subscribers to "The Plough, the Loom, and the Anvil," and in default, take that number myself, for gratuitous distribution.

I have the honor to be, Very respectfully,
ALLEN TRIMBLE.

NOTE.—The words in *italics* emphasised by the writer.

Mr. Phinney, writer of the following, is well known as one of the most accomplished and practical farmers in New England:

Lexington, Mass.

As for my opinion of your new work, "The Plough, the Loom, and the Anvil." In the first place, I have been actually astonished that one hand and head could do so much. I want more time than is allowed me in the day and night hurry of court business to express my views of a work so broad in its range, and so eminently calculated to be of great utility to the interests of the *whole* country. I most sincerely believe it will do more to promote the cause of agriculture, to give a healthy tone to the great body politic, and to reconcile conflicting parties than all the noisy declamations of hot-bed politicians. In short, it is *just what the country wants*, and must convince every owner of land, that if he would thrive by the plough, it must be by bringing it into proximity with the loom and anvil.

I had not seen a single number of the work till I received the seven numbers forwarded by you, and regret that I have so long been deprived of the pleasure of perusing its interesting pages.

Every New England man, woman and child, owes you a debt of gratitude that should at all times secure to you open doors and open hearts.

With kindest wishes, that you may for a long time to come be enabled to pursue your useful labors, I am, very sincerely, your friend,
E. PHINNEY.

Senate U. S., Washington.

I was much gratified at the perusal of your speech (at Middletown, Connecticut,) which exposed the fallacies of our free trade politicians. The true cause of the depression of agriculture in our country is to be found in the fact that we purchase and pay for immense quantities of foreign bread, meat and vegetables, when we pay for the articles manufactured abroad which we consume. I trust your labors may open the minds of our farmers to this truth. Let them see that when they wear a coat made of British broadcloth, they must pay for the food the manufacturer consumed while engaged in making the cloth. With great respect, your obedient servant,
J. R. UNDERWOOD,
Of Kentucky.

To the Editor of the Plough, the Loom, and the Anvil.

EXTRACT FROM HOLLIDAYSBURGH, PA., *9th March*, 1850.

I wish your "Plough, Loom, and Anvil" was read by every farmer in our country; it would be a perfect panacea for many of the evils with which we are oppressed. It would produce as great a sensation as fire in a barn among rats. But there is a good time coming, there is every now and then a star appearing in the horizon that did not previously exist. I hope to be able to do something to advance the interests of your journal, but can't promise to enter Governor Trimble's list, as too many of our farmers would rather read political squibs, than anything that concerned their calling.
Yours respectfully,
JOSEPH DYSART.

Nashville, Dec. 30, 1849.

Every man in the United States ought to read "The Plough, the Loom and the Anvil." MAKK R. COCKRILL.

The terms of subscription to The Plough, the Loom, and the Anvil, are—*in advance* for two subscribers, or for two years, $5; for one subscriber $3 a year; or $10 will pay for six years, or for five subscribers for one year. The next July number will be the first of the next volume. Address J. S. SKINNER,
July 1—1t. 70 Walnut street, at his cost and risk.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

A Brief Account of the Uncultivated Lands on Long Island, in 1850.

IN answer to numerous inquiries relative to the uncultivated lands on Long Island, and for information concerning them, the attention of the public is directed to the following brief account of their position, natural capabilities, and the facilities they offer the city mechanic, the market gardener, the fruit-grower, the dairyman, and all others who are in quest of a new home.

These lands are mostly in the interior or middle parts of the Island, and probably were at first neglected more from their *remote* situation, than anything else, being *inland*, as it is commonly expressed by the inhabitants.

In fact, there does not appear to be any other cause for the *origin* of the discredit in which this portion of the island has long been held, than that it was a few miles from the shores, and therefore not so desirable to the early settlers as the lands bordering on the beautiful bays and harbors that surround them.

Indeed, all the first settlements were made near the shores; for the waters afford great privileges, added to the pleasures and comforts of life, as they abounded with fish and wild fowls in great variety; and which were a means of subsistence to the inhabitants then, as now. There is no other way to account for the strange and singular neglect of the middle regions of this Island. The eastern parts of it are highly cultivated, with a soil by nature no better than that now under consideration; the northern and southern shores, nearly its whole length, have been settled and cultivated, as long as the western part of it; more than two hundred years.

By reference to the old maps of Long Island, it will be seen that the settlements are as above described, and that the middle portion, for about forty miles long, and from six to eight miles broad, are entirely a blank. The Long Island Railroad passes through nearly the centre, from east to west, of this unimproved tract, which commences at Farmingdale, distant thirty-one miles from the city, and extends to Riverhead, about forty miles.

The "Great Hempstead Plains" are nearer the city, being only about sixteen miles distant. There are in this tract about 17.000 acres of the most beautiful land, capable, in every respect, of the highest cultivation, and belongs to the town of Hempstead, in common. It cannot be sold without a popular vote of the inhabitants, a majority of whom have always opposed the sale of it; and it is probably for this reason, alone, that it is at present unimproved; for the soil is equal to any other part of the Island of like extent. It is, in truth, a prairie, and the only one east of the Alleghanies, and was, in the early history of the country, considered as a great curiosity, and as such, was visited by great numbers of people from the different colonies, and by the early European travelers, but was not then regarded as barren.

It was more than one hundred years ago that Long Island obtained its distinctive appellation of the "Garden of America," and was then considered as highly fertile and productive, and described as such by all those who wrote anything about it previous to the Revolutionary War. Had the middle parts of the Island, along the borders of the railroad, been cultivated as the other parts, the lands there would now present the same appearance that those under cultivation now do.

Long Island was, in the early history of the country, regarded as highly fertile, as will appear by the following extract from the Annual Report of the American Institute, to the Legislature of the State of New York, for the year 1847, from page 686. "A work of 1670, proves this a rare and curious book, Denton's History; or a Brief Description of New York, formerly called New Netherlands (this has been called one of the gems of American History, being the first printed description, in the English language, of what is now the great, wealthy, and populous State of New York.) Long Island is not spoken of in this, nor any subsequent work for a great many years, as being of poor soil * * * it is everywhere spoken of as being exceedingly fruitful, with a pleasant and healthful climate, and beautiful streams and bays, abounding in all kinds of fish and water fowl." The Island was then (1670) settled on the eastern parts of the towns of East and South Hampton, and all the north shore, including the towns of Huntington and Smithtown, and the settlements in the north part of Brookhaven, so that the whole island was at the time of this author well known; for he says, "The Island is most of it very good soyle, and very natural for all sorts of English grain, which they sowe, and have very good increase of, besides all other fruits and herbs common in England.

"The fruits natural to the Island, are mulberries, posimons, grapes, huckelberries, cranberries, great and small plums of several sorts, raspberries and strawberries; of which last is such abundance, in June, that the fields are died red; which the country people perceiving, instantly arm themselves with bottles of wine, cream and sugar, and instead of a coat of mail, every one takes a female upon his horse, behind him, and so rushing violently into the fields, and never leave till they have disrobed them of their red colours, and turned them into the old habit. The greatest part of the Island is very full of timber, as oaks, white and red, walnut trees, chestnut trees, which yield stores of mast for swine; also maples, cedars, saxifrage, beach, birch, holly, hazel, with many sorts more."

Then follows the enumeration of a variety of herbs and flowers which the country naturally affords, "Yea, in May you shall see the woods and fields so curiously bedecked with roses and an innumerable multitude of delightful flowers, not only pleasing to the eye, but to the smell, that you may behold Nature contending with Art, and striving to equal, if not excel, many gardens in England." Such is the description given of this Island by all the early writers.

The Hon. Gabriel Furman, in a very able and interesting address, delivered at Jamaica, October 10th, 1844, before the Queens County Agricultural Society, says the first printed history of New Netherlands, published by Vanderdonck, at Antwerpt, in 1650, gives a similar description of the fertility of Long Island.

The streams of the Island are numerous and of remarkable clearness and purity. The old author above (Denton,) says of the "Rivers and Riverets which empty themselves into the sea; yea, you shall scarce travel a mile, but you shall meet with one of them whose Chrystal streams run so swift, that they purge themselves of such stinking mud and filth, which the standing or low-paced streams of most brooks and rivers westward of this colony leave lying, and are by the sun's exhalation dissipated, the air corrupted, and many fevers and other distempers occasioned, not incident to this Island."

All this part of the Island is covered with a rank and vigorous growth of vegetation, and has probably produced a crop of wood, pine, and oak, fit for the New York market, every 18 or 20 years, for the last 100 or 150 years, besides having been burnt over a great number of times during the above-named periods. From this fact alone, may be seen its productive power; for any land that will produce wood, and the various kinds of vegetation that this land produces, must be capable of cultivation to the highest degree; and there can be facts enough adduced to prove beyond a doubt that this is true of almost all that part of Long Island now uncultivated and wild, along the borders of the railroad. There never has been an attempt made to cultivate any portion of it that has failed; in every instance where it has been fairly tried, it has succeeded. There are now many farms and gardens, highly productive and fertile, that were a few years since reclaimed from the same kind of land.

It is the opinion of the best agriculturists of the state of New York, and other men of high intelligence and practical skill and knowledge of agriculture, who have examined these lands, that there is no reason why they cannot be cultivated by ordinary means, and rendered as prodvctive and as valuable as any other lands on the Island.

Among those who have seen these lands, and expressed opinions favorable to their cultivation, is Judge Meigs, of the American Institute. He says that "Long Island contains all those materials, calcareous and others, necessary for high and profitable cultivation, and that these lands, for the various productions of the garden, field, and orchard, are very highly adapted, and also for the vine and silk mulberry."

Dr. Underhill, celebrated for his cultivation of the grape, at Croton Point, has examined this portion of Long Island, and says, "there can be no doubt that all these lands can be rendered highly productive and fertile without any difficulty, and by the same means that will cultivate and enrich any other land." He further says, he is "willing to stake what reputation he has as an agriculturist, that these lands are susceptible of most profitable cultivation for the vine, the peach, the apple, and other orchard fruits, and the usual productions of the garden and field."

Professor Renwick, of Columbia College, says, "those portions of the soil from Hempstead Plains, have been analyzed in his laboratory (in Columbia College,) and "were found to partake of all the constituents of a fertile soil, in large proportions, and only require the application of quicklime and other decomposing substances to render them fit for the process of cultivation;" and says of the scrub-oak lands, "that it is a fact, that in many parts of the country those lands called 'oak barrens,' and neglected for a time, have been found to be the best wheat lands, and these lands of Long Island may prove of the same character."

Professor Mapes is also of opinion that these lands may be easily cultivated.

The late T. B. Wakeman, Esq., and General Chandler of the American Institute, have given opinions, after having examined these lands, favorable to their successful and profitable cultivation.

Charles Henry Hall, Esq., whose skill and judgment are undoubted, in all matters relating to agriculture, expresses his entire belief in the feasibility of rendering these lands eminently productive; that the climate and soil of Long Island are favorable to a high degree of perfection to all kinds of fruits and plants that grow or can be raised in this latitude.

A. B. Allen, Esq., editor of the American Agriculturist, says there is no doubt that these lands can be successfully cultivated, and Mr. Allen's opinion on the subject of clearing it of roots, or of breaking it up and rendering it fit for the plow and hoe, is deserving of very great consideration.

One great objection urged by the people of the Island against any attempt to clear and cultivate the part of it under consideration, is the great difficulty and expense in clearing the kind of the growth of bushes, which, as commonly done by hand, by means of a large hoe, or mattock, and costs too much. Mr. Allen thinks that it can be broken up by the plow for about three or four dollars per acre, and he has had great experience in all matters pertaining to the clearing of new land. It is now found by experience that crops can be put in these lands by the harrow, and thus cleared at even less than by plowing.

Evidence of this kind can be adduced to almost any extent, and there are no facts that can be brought against it, and all the opinions to the contrary are founded upon ignorance and prejudice.

Samuel A. Smith, Esq., of Smithtown, in an address before the Suffolk County Agricultural Society, at Commac, in the fall of 1846, said of these lands, "that they had always considered them only fit for deer to roam over, and foxes to dig holes in, and they knew no other reason for such opinions than that their fathers had told them so"—that they never had made any attempts to cultivate these lands, and therefore did not know from any fact that they were unfit for cultivation.

The situation of these lands is extremely favorable, and even desirable. The Long Island Railroad passes directly through the uncultivated parts of the Island—thereby affording easy and certain access during the whole year, having, in this respect, a great advantage over even those places on the coast or bays that are esteemed the most valuable—for, by the railroad, the market can be reached at all seasons and at all times, without reference to wind and tide and unobstructed by ice, as the bays and harbors are for three months in a year.

The surface of this part of the island is varied, or gently undula ting, with a southern aspect, having a descent of from twelve to twenty feet to the mile, from the ridge of hills about one mile north of the railroad, to the shores of the great South Bay, a distance of five or six miles.

The summit level of the railroad, at Hicksville, is 142 feet above tide water, and at Lake-Road Station, 48 miles from the South Ferry of New York, it is 90 feet—it will therefore be seen that the surface is not a "dead level—a great dreary plain," but sufficiciently varied.

In passing through on the railroad, the appearance from the cars is altogether unfavorable, and the impression left on the mind, to an ordinary observer, is erroneous. The excavations for the road are, in most cases, so deep as to go below the upper stratum of the earth, or the proper covering of the Island, and into the sand and gravel, of which it is everywhere composed below the surface. Hence the appearance of sand and coarse gravel, that is seen on the borders of the railroad.

This fact can be easily ascertained by any one who doubts it, by digging through the surface stratum anywhere in the vicinity of the village of Jamaica, or in those finely cultivated fields along the railroad, either east or west of that place, a very few feet, say from one and a half to two and a half feet deep, will turn up the same kind of sand and gravel as seen along the road to the east of Hicksville and Farmingdale.

The whole prospect from the road after leaving the last abovementioned place, is barren and desolate, and without a careful examination and knowledge of the facts herein stated, the conclusion would be that the land was in itself necessarily sterile and barren; for, in addition to the sandy and gravelly appearance, the absence of the trees, and in much of the distance, a stinted vegetation, or in some places none at all, on the immediate borders of the railroad, seem to confirm the opinion that it is as sandy and barren as it has ever been represented.

The explanation of this may be found, first in the fact that the uneven and irregular growth of wood or trees being of different heights or sizes, some very small and scattered, whilst others are larger, and which is in consequence of the time or period that has elapsed since the land was cut over. On some places the growth is one year old, on others two, five, seven, ten, &c. Besides having been cut over, it often happens that it is burnt over, which always has a tendency to kill the timber and wood, and destroy vegetation. Nearly all the great region of wood and wild land through which the railroad passes, has been burnt over two or three times in five years. The first fire after the opening of the road was tremendous—terrific. At one time it lasted nearly two weeks, and seemed as though it would consume the whole Island. There was a great amount of combustible matter on the ground and in the woods, and the earth was exceedingly dry, and the effect of the fire was in the highest degree scathing—consuming almost every particle of vegetable matter on the surface of the earth. For miles in extent, nothing could be seen but the smooth and blackened surface, and the charred bodies of such trees as had escaped destruction. The fire happened in the month of April, and the land over which it had passed looked like a furnace that had suddenly been extinguished, as black and desolate as fire could make it.

Yet as soon as the sun and showers of spring and summer came, the whole was again clothed with verdure—vegetation could be seen there, literally "bursting into life." It was truly astonishing to see with what vigor, power, and rapidity the leaves and plants, and flowers sprung forth to deck the earth again in green.

The writer of this well remembers with what interest he watched the returning signs of life in the vegetable kingdom there, and the great impression that its return so speedily, so luxuriantly and so powerfully made on his mind—how soon the restoring energies of nature were brought into action to repair the injury that had been done to the earth's surface.

There is on each side of the railroad, distant about twenty rods, and running parallel with it, what is termed a *fire road*. It is a cleared path, about twenty feet wide, which has been cleared of all the bushes and roots, by grubbing. The object of this "fire road," or path, is to prevent the fire from crossing over it, and passing into the woods, in case of the combustible materials along the road taking fire from the sparks from the engine. The space between the railroad and these fire roads is burnt over every spring and fall, with a view to kill and destroy all vegetation, and all vegetable matter on it, in order to prevent the recurrence of fires; and this fully accounts for the extreme barren appearance along the borders of the road.

The forest productions of this part of the Island are such as to convince the most skeptical that the soil is capable of yielding, when cultivated like other parts of the Island, in the same abundance. Immediately on the plains along the borders of the railroad the trees are chiefly pine, with a thick and vigorous growth of underwood or bushes, such as scrub oak, whortleberry, vines and grasses.

A little to the north, are found the chestnut, hickories, the varieties of the oak, as white, black, or yellow oak, black walnut and locusts—all of which exhibit the most vigorous and thrifty growth. Indeed, so rapidly do trees grow on this part of Long Island, that about 18 years are considered sufficient to produce a crop of wood suitable to cut into cord wood for the New-York market, and there is no part of this state, (New-York,) where timber will grow so fast as on Long Island. If the soil were barren and destitute of the supporters of vegetation this certainly would not be the case. It may be here remarked that the locust, now so abundant in many parts of the Island, and so valuable as timber, is not a native, but was brought from Virginia, or from further south, by one of the Sands family, who settled near Sands' Point in about the year 1660. Mr. Sands was a seafaring man, and traded between the West Indies, the southern colonies, and New-York.

The whole region of the Island, now in waste and wild, might be very easily transformed into a beautiful forest of locust, hickory or oak, to great advantage and profit compared with its present condition. This growth of forest trees is evidence that fruit trees can be successfully cultivated; and this opinion is sustained by the facts of the case; for whenever any attempts have been made, and proper care and attention bestowed, the most complete success has followed. The nurseries of Flushing have long been celebrated for their extensive and choice varieties of fruits. Peaches have been successfully raised on almost every part of Long Island, notwithstanding opinions have been advanced to the contrary. There were peaches of the largest size and finest flavor raised at Huntington, and exhibited at the agricultural Fair at Commac, in the fall of 1846.

The Rev. J. Pillsbury, (now of Illinois,) cultivated successfully, a fine variety of fruit, including peaches, at Smithtown, Long Island, a few years since.

The peach orchard of Mr. John J. Stoothoff, at Jamaica, is such as to encourage others on the Island to cultivate this delicious fruit. For a particular account of this beautiful and flourishing peach orchard, and its productions, see the American Agriculturist, Feb No., 1848. It will be sufficient to say, the year being the second of bearing, the orchard, containing about 2 500 trees, yielded about 2.637 baskets, worth $2.600. The whole product from 27 acres of land was 3.646. Peas and potatoes were cultivated between the rows of peach tress, and asparagus in some parts of the land. The soil upon which this orchard is planted is as much like the soil of these uncultivated lands, as it can be; it is impossible to discover any difference in viewing it, and it is not probable that a careful analysis would show any difference.

A few remarks on some of the privileges which the surrounding bays and waters afford, may not be uninteresting. They are not more than three, four or five miles distant from almost any part of these lands; and in these waters are found various kinds of fish and wild fowl for the sportsman. In the streams that flow from the Island, the waters are remarkable for their purity, and for being but little affected with drouth. These streams are full of trout of large size and fine flavor.

The Long Island Railroad is to be the great means of changing this great wilderness from its present wild and waste condition to the habitation of man, to convert it into gardens and cultivated fields. The railroad now brings this part of the Island almost within the sound of the city bells, and affords constant and regular means of access at all seasons of the year, thereby enabling those who will now take up and settle these lands, to have the benefits of the New-York and Brooklyn markets, with as much ease and economy as the inhabitants of the western part of Queens county have formerly had. It is to the interest and welfare of the whole Island to have these lands settled and cultivated—it will add greatly to its wealth and population. To the railroad, it will be of essential service and benefit; it is a plain matter of fact, that every settlement made on the borders of the railroad must necessarily furnish a certain amount of business and travel for the road.

Lake Road, or Irvington, is one of the most beautiful sites of the inland parts of the Island. The soil there is of superior depth and quality, well adapted to the cultivation of all kinds of fruit, such as pears, peaches, grapes, and apples; and grain, as wheat, corn, rye, oats, buckwheat, as well as for every variety of vegetables raised on any part of the Island.

The whole glebe, or tract of land to the south of Ronkonkoma Lake, and to the east of Connetquot River, is the very best of all the uncultivated land on Long Island, and when cultivated, will be equal in quality and value to any land, and the situation is extremely desirable for settlement and residence. The wood or timber on this tract is oak, hickory, chestnut, locust and pine; and it may be here stated that similar land a little to the north or south of this tract is valued at and sold for $50 to $100 per acre, whilst this tract is offered at the very low price of $10 per acre—or from $10 to $20, according to location—a large part of the purchase money of which may remain at 6 per cent. interest for a term of years, if desired by the purchaser. The title is as good as can be to any land in the State of New-York.

Lake-Road Station is the Half-Way House, between Brooklyn and Greenport, and the most central and important depot on the Long Island Railroad, for freight and passengers, being the terminus of a morning and evening train of cars, for the accommodation of the morning and evening travel between Lake Road Depot and New-York.

EDGAR F. PECK,
306 State st., Brooklyn. N. Y.
July 1—1t.

The Norman Horse.

THIS Thoroughbred Stallion will stand for mares the present season, on Tuesdays, Wednesdays and Thursdays, at Union Springs, Cayuga County; on Fridays at Canoga, and Saturdays at Bearytown, in Seneca County. Pasture 3 shillings per week. Mares at the risk of the owner.

ROBERT B. HOWLAND.
Union Springs, June 1, 1850.—2t.

Dunn's Scythes.

GRASS Grain, & other scythes from the celebrated Nor. Wayne Scythe Co., late R. B. Dunn's.

Having sold these scythes for several years with uniform good success—(not one in a hundred having failed and been returned)—he does not hesitate to recommend them as equal if not the best in use. For sale by H. L. EMERY,

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late Thomas Bates, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

June 1, 1850—4t.

No Humbug.

THE undersigned, after 20 years' experience and much research, has discovered a cheap chemical compound, easily applied, which completely prevents the ravages of the Bee-moth, and which can be adapted to each and every kind of hive, whether patent or otherwise. This discovery he will impart to any individual on the receipt of one dollar. It being understood the purchaser shall hold himself honorably pledged, not to impart the information to others. The whole contained in a circular, to which is added several valuable suggestions in the construction of hives and management of bees, worth more than any patent hive in existence.

Address, post paid, SETH WHALEN,
May 1, 1850—3t * Ballston Spa, N. Y.

Kinderhook Wool Depot.

THIS enterprise will be continued upon the same principles as heretofore, viz:

The FLEECES will be thrown into *sorts*, according to *style* and *quality*.

A discrimination will be made between wool in good or bad condition.

All who desire it can have their clips kept separate.

Sales will invariably be made for cash.

The charges will be, for receiving, sorting and selling, one cent per pound, and the insurance, which will be 25 cents on $100 for a term of three months.

Liberal advances in cash, made on the usual terms.

Reference can be had to

Dr. J. P. BEEKMAN, Kinderhook
B. P. JOHNSON, Albany.
T. W. OLCOTT, "
R. H. KING, "
Messrs. FREELAND, STUART & Co., N. Y. City.
Messrs. M. D. WELLMAN & CO., Massillon, O.
R. CARTER, Chicago, Ill.
Messrs. OGDEN & JONES, Chicago, Ill.
JOHN F. GILKEY, Kalamazoo, Mich.
SAMUEL PATTERSON, Washington Co., Pa.
R. A. ALLEN, Liberty, Bedford Co., Va.

Directions for Shipping.—Sacks should be marked, "H. BLANCHARD & Co., Kinderhook, N. Y." The connections between the various transportation lines are so regular, that in ordinary cases, contracts can be made for shipping to East Albany, (opposite Albany,) if sent by the Northern route; and T. L. Green, agent for the Railroad at that place, will forward to Kinderhook. If sent by the Southern route, contracts can be made to New-York, and J. H. REDFIELD & CO., corner of Broad and South Sts., agents of the Swiftsure line of Tow-Boats, will forward to East Albany. The initials of the owner's name should be upon each sack, and an invoice forwarded to us at the time of shipment, stating the number and weight of each bale; also contract prices for shipping, if any are agreed upon.

June 1—2t.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,
Feb. 1—6ms. JOSEPH CALDWELL

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,
Walpole, May 1—5t.* Agent for the Proprietors.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Circular.

THE subscribers are making and vending J. W. SHERMAN'S

New Seed Drill and Broadcast Sower,

Constructed upon a new principle; cheaper, simpler, and more *durable and accurate*, than any similar machine now in use.

We are building three different qualities of these machines. No 1, is a superior Drill and Broadcast Sower, and will sow fine Manure (such as Plaster, Ashes, Guano, &c.,) *Broadcast*, or in the drill rows, any desirable quantity per acre, at the same time of drilling in the grain. It is well finished, substantially made, of good material, and *warranted*—at the low price of $65.

No. 2. is built for drilling all kinds of grain. It will also sow fine manure, broadcast, on crops. Price $55.

No. 3, is a plain Wheat Drill; simple, accurate, substantial. Price $45. *None of our machines will clog in the runs*; they cannot do so with the most difficult kind of seed; THE DISTRIBUTING PRINCIPLE BEING ENTIRELY NEW.

We are prepared to supply all orders. Those wishing to purchase drills, would do well to see ours before purchasing elsewhere. The sooner the order is given, the more sure you will be of getting your Drill in time.

N. B.—Persons wishing to make or sell our Drills, are offered a good chance.

A large descriptive bill will soon be issued with cuts. All communications or inquiries [post paid,] will receive prompt attention. Address Sherman, Foster & Co., Palmyra, Wayne county, N. Y. Those wishing it, can see the machines at Foster, Jessup & Co's Machine shop, Palmyra; where they will also find the best Thresher and Separator, Revolving Horse-rake, (spring teeth,) wheel Cultivators, and other agricultural implements; warranted superior. *Call and see.*

Mr. SHERMAN is agent for the sale of McCormick's Virginia Reaper. SHERMAN, FOSTER & CO.

Palmyra, June 1, 1850—2t.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

Grain Cradles,

WITH Dunn's Scythes, the best known. These cradles are from the most celebrated makers known, and so constructed that they are readily packed in dozens, and if necessary, boxed up for transportation—6 dozen can be easily packed in the space usually required for a single cradle. For dealers, or farmers at a distance, this is found a great convenience, as safety and cheap transportation are secured. They are offered to the trade on as liberal terms as by any other manufacturer or dealer. Albany Agricultural Warehouse of

H. L. EMERY,
June 1, 1850. 369 & 371 Broadway, Albany.

Horse Rakes.

WILCOX, Downers, and other approved Revolving Horse Rakes, light, strong and durable. Several hundreds were sold the past season, with fullest satisfaction to the purchasers. Dealers in the article can be supplied on liberal terms.

FENCE WIRE. All sizes and qualities, suitable for fences, for sale low.

CULTIVATORS, and Double Mould Board Plows, of various sizes, for cultivating and hilling Corn, Potatoes, &c.

Albany Agricultural Warehouse,
Nos. 369 & 371 Broadway.
June 1, 1850. H. L. EMERY.

John A. Pitts,

Manufacturer of THRESHING MACHINES and DOUBLE PINION HORSE POWERS,* 68 *South St. Paul Street,

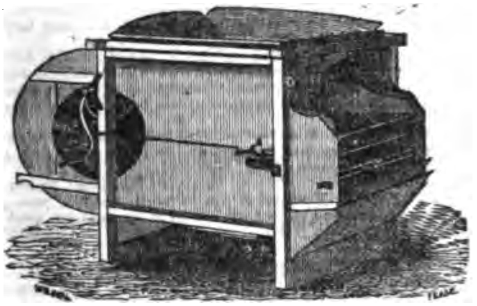
Rochester, N. Y.

THE subscriber continues the manufacture of the celebrated "Pitt's Separator." It is the same machine that has stood, and now stands unrivalled by any machine for Threshing and Cleaning Grain, in existence. It has been exhibited at State and County Agricultural Fairs, in the United States and Canada,—always receiving the *First Premium*.

The Horse Power, for strength, ease, durability, and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two full pinions, each receiving equal power; 2 bevel wheels, driven by the full pinions, connect with two pinions, on the line shaft; thus it will be seen, this Horse Power is double the strength of any single geared Power. It may be driven with from two to ten horses, depending upon the power required.

The Machines have fully sustained all I claim for them; I therefore solicit orders from those who would secure the best Threshing Machine and Horse Power.

Please address as above. JOHN A. PITTS.
Rochester, May 1, 1850—3t.

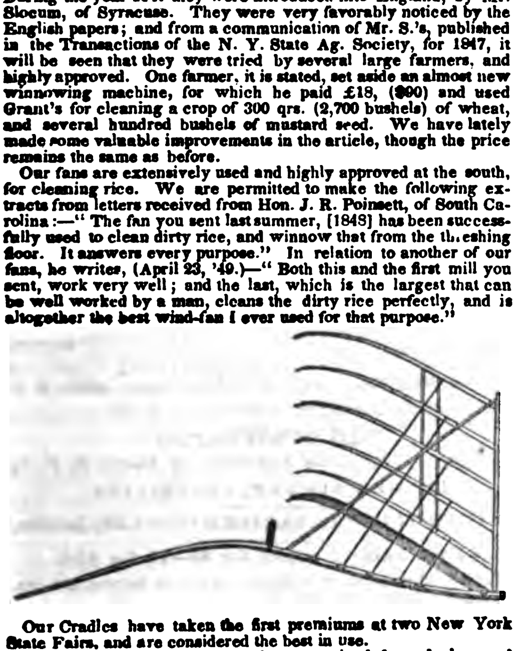


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.
Junction P. O., Rens. Co., 8 miles north of Troy
May 1, 1850—tf

10,000 Acres of Long Island Land for Sale,

At Lake Road Station, or Irvington.

THE undersigned is, and has been for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 10,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 48 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the north and south side of this land,—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkama Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the south of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 feet deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New-York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations,—but with all the privileges and comforts of an old one. Apply to A. B. ALLEN, Esq., Editor of the *American Agriculturist*, 187 Water Street, New-York, or to E. F. PECK,

306 State Street, Brooklyn, L. I.

☞ Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there.

May 1, 1850—3t.

Great Sale of Short Horn Cattle.

THE subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Duchess Co., New York, about 35 head of Short horn cattle, including cows, heifers and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day, and made 15 pounds 3 ounces of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, who will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Short horns—was calved in June, 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,) out of Jessamine, by Commodore, (3,452)—Flora, by Belvidere, (1,706)—Jessey, by Belvidere, (1,706)—Cherry by Waterloo, (2,816) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first rate judge of Short horn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow red, which is a bright red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees, without any alloy or Galloway blood, back to pure Shorthorns, for upwards of *two hundred years;* a matter of no small consideration to those who wish a *superior fresh cross.*

Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

Southdown Sheep.—A choice flock of this superior breed of mutton sheep, will be sold on the same day as above.

Suffolk Swine.—One boar and several breeding sows and pigs, of this fine breed of swine.

Working Oxen.—A handsome pair of red working oxen.

A. B. ALLEN, 189 Water st., New-York.
June 1, 1850—3t.

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices. Z. HOSMER,
April 1, 1850—6t. 110 Milk St., Boston.

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For Sale.

TWO Bone Mills, Bone Manure, three Building Sites, one Steam Bone Mill, capable of grinding from 800 to 1200 bushels per day; one Horse Power Bone Mill, capable of grinding from 150 to 200 bushels per day; both mills are in complete order. 3 Building Sites—100 acres, 49½ acres, and 14 acres, from 3 to 5½ miles from Vanderbilt Landing, Staten Island, elevated and having good rural qualities; ocean views that cannot be surpassed. Apply to

ALEX. HORNBY,
26th Street, 9th Avenue, New-York.

July 1—1t.*

Morgan Horse Young Black Hawk.

YOUNG Black Hawk will stand at the stable of the subscriber.

Terms—$10 the season, $15 to insure. Young Black Hawk is five years old; his color a beautiful black, and for beauty, speed and action, with age, cannot be beat.

Breeders of good horses are invited to call and see him. Owned by FRANKLIN FELTON.

Ticonderoga, N. Y., July 1—1t.*

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187 Water Street, New-York.

THE business connected with this Agency, having increased beyond the expectations of the subscriber, he has taken the above more convenient and eligible store, and aided by experience, has prepared to meet the increasing demand upon his services.

He will import the coming season, a full supply of the following Stocks, Seeds, Trees, &c., &c , and solicits all his friends to send their orders *before the close of July*, to prevent disappointment.

He also tenders his services for the *purchase* or *sale* of anything in the business, and will give prompt attention to the receiving and forwarding any goods consigned to his care. Importations passed at the *Custom House*, the goods properly taken care of, and re-packed when necessary.

Imported 1st quality Stocks	*American Stocks.*
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Pear,	Pear,
Mahaleb Cherry,	Plum,
Paradise Apple,	Cherry.
Plum.	

Imported specimen Fruit Trees, of any kinds required, from the best nurseries. Also,

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Silver Fir,
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Mountain Ash,
English Elm,
Wytch Elm,
Chinese Arbor Vitæ,
Siberian Arbor Vitæ,
Irish Yew,
Hollys,

Minetta Rose Stocks,
Standard Roses,
Prime Gooseberries,
And *Seeds* of any kinds if ordered in good season. Also for *sale*.
2,500 Dwarf Cherries, Budded on the Imported Mahaleb Stock.
30,000 2 yr. Osage Plants.
Osage, Apple, and Pear seed, Plum, Cherry and Peach pits.

Pruning and Budding Knives, Labels, Flower Pots, Propagating Glasses, Russia Mats, Twine, &c., &c., with any thing required in the business.

GEO. G. SHEPPARD,
197 Water St., New-York.

July 1—1t

Full Blood Berkshire Pigs.

THE subscriber offers for sale a fine lot of young Boars and Sows, at prices from $8 to $4. The boar they were raised from took took the first premium at the Buffalo Fair. R. B. HOWLAND.

Union Springs, July 1, 1850—2t.

Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.

July 1, 1850—tf. A. S. BABCOCK.

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G EMERSON, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

" We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

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THE HORTICULTURIST,

AND

Journal of Rural Art & Rural Taste.

EDITED BY A. J. DOWNING,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

TO all persons alive to the improvement of their gardens, orchards or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "FOREIGN NOTICES" present a summary from all the leading Horticultural Journals of Europe; the "DOMESTIC NOTICES," and ANSWERS TO CORRESPONDENTS, furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest and most valuable works on either side of the Atlantic.

THE FIFTH VOLUME OF THE HORTICULTURIST will be commenced on the 1st of July, 1850. All or either of the back vols. can be supplied. New subscribers will be furnished with the first four vols. for $10.

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LUTHER TUCKER,
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Albany, June, 1850.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, AUGUST, 1850. VOL. VII.—NO. 8.

Improvements on the Farm.

THE latter part of August and the fore part of September may be considered the most favorable part of the year for making improvements on the farm. At this season, the earlier crops have been secured, the cultivation of the later ones has been finished, and the farmer is only waiting for their maturity. In addition to the comparative leisure which is thus afforded, there are other circumstances which render this a suitable period for such operations. The ground is generally drier than at any other time during the year, which permits the labor of men and teams on places which at other times are inaccessible from wetness. This is particularly favorable to the drainage of bogs, and to the excavation of peat or muck for manure. The growth of bushes and shrubs has also reached that particular crisis in which they may be more easily killed by cutting or bruising.

One of the first objects to which attention should be directed in the improvement of the farm, is the eradication of bushes and pernicious plants in fields, along lines of fences, roadsides, &c. These are not only great drawbacks on the beauty of the farm, being unsightly to the eye, and conveying an unpleasant idea of careless and slovenly habits; but they are very detrimental to the pecuniary interest of the farmer. They draw nourishment from the ground which should go to the support of valuable plants, and by propagating themselves, are constantly increasing and spreading the injury. Thistles, docks, briers and thorns, are often allowed to flourish unmolested in the situations mentioned. On the borders of fields they occupy the richest of the soil, and annually extend their encroachments. They are not unfrequently seen in good lands, that are devoted to various crops, and in pastures are quite common—many farmers being apparently regardless of their presence and effects. The great extent of ground that is occupied by these worthless pests, is a dead loss; but besides this, grass and other crops are robbed of moisture by them during drouth, and at other times are soured and diminished in growth by their shade and roots.

It should be an invariable rule with the farmer, to prevent all injurious plants from seeding. This will at all events keep them from spreading—except such as increase by the root. Annual or biennial thistles are easily destroyed by being cut while in blossom and before any seed is matured; and even Canada thistles may be destroyed by following up this course for several seasons in succession. They should be cut *close to the ground*, and just at that juncture when they are in fullest bloom. A few will start, which if untouched will produce seed in autumn; but this second crop should be cut without fail, when in the same stage as the first. The readiest and most effectual mode of destroying Canada thistles, where they occupy ground that will admit of cultivation, is by frequently working the soil with the plow, or some implement that will entirely prevent the growth of the top. No plant can bear to be deprived of its leaves for a long time, and if thistle patches are worked over so often as to prevent the plant from appearing above ground, they will be mostly killed in one season.

Docks and mullens may be pulled up any time before they make seed, though it will be most convenient to pull them after they have shot into stalk. Those which break off may be dug up with a mattock. If cut off two or three inches below the surface, they will not start. The eyes or buds from which shoots proceed, are situated near the crown of the plant. If not cut below these, they will grow. The yellow dock is an exceedingly troublesome plant in grain fields and meadows, and should be exterminated as soon as it makes its appearance, as it spreads very rapidly from seed. The burdock only grows in rich soil, but is frequently allowed to monopolize some of the best portions of the farm. When sheep are allowed to run among them in the fall of the year, the burs adhere to the wool, and occasion much injury by matting it.

Briars and other bushes should be cut the latter part of August. They have then finished their new growth, and the sap is about to "turn," as the expression is—that is, a new set of buds is to be prepared for another year, and the new wood is to be ripened and perfected. If cut at this period, but few sprouts are sent up, and those few are easily bruised to death with a stout stick, while tender, or at the time when frost checks their growth. If sheep are kept on the ground, they will, if the feed is rather short, crop the sprouts as soon as they appear, and if permitted to keep them down for two seasons, the roots will be principally killed. It is an advantage to sow on some grass seed—blue-grass, or red-top—as soon as the bushes have been cut and burned. The seed will take root with the first shower, and the growth of the grass will tend greatly to smother down the sprouts of the bushes. As with thistles, it is important that the bushes should be cut close to the ground.

The reclamation of waste lands generally, but especially those of a wet and swampy nature, may be prosecuted with advantage at this season. With these, drainage is the first object. The water which appears in the form of springs should be first cut off by deep channels along their sources, and these channels should convey the water to such points as will best insure its discharge from the land. As the water is taken away, the soil will settle, more or less, and this settling will facilitate further operations in several ways. The solidity acquired will admit of taking on teams for getting out stones, stumps and bushes, and all such objects are left by the settling of the earth, mostly on the surface, from which they may be readily removed.

The "swamp holes," which, like plague spots, disfigure the surface of farms, forming the breeding places of worthless plants and disgusting reptiles, and filling the atmosphere with the seeds of human disease, may often be brought into the most profitable cultivation. They frequently comprise the richest parts of the farm, as is proved by the large crops they produce, when redeemed from the effects of stagnant water and wild plants. They are particularly natural to grass, and when properly prepared by drainage, the wild growth exterminated, and the surface properly smoothed, may be brought into valuable meadows by sowing the grass seed about the first of September. Timothy, and the large red-top are the best grasses for such situations; a peck of the seed of the former, with half a bushel to a bushel of the latter, (according to its cleanness,) is the proper quantity for an acre. It may be scratched in with rakes, or by a bush-harrow.

Peat bogs, drained, may be made to produce good crops of many kinds; but grain crops and grass are very liable to lodge down on peaty soils. This is owing in a great degree to the want of silex (flint) in the soil, and in some degree also to the soil being too loose to give the plants a firm standing on their roots. The application of sand or gravel remedies both defects, and when the mineral substance is well incorporated with the vegetable matter, the straw becomes stiff, and the crops stand and mature well. The quantity of sand which it is expedient to apply, varies with the composition of the peat soil, some containing much more mineral earth than other deposites. A coating of an inch to two inches in depth, will, however, be found sufficient in most cases. It may be carted on in winter when most farming operations are suspended.

Peat to be used in the barn-yard, for mixing with animal manure, should be dug out at this season, and piled on dry land, where it may be obtained as wanted. In this situation, the air and rains gradually dissipate the acid which the peat contains when in its natural bed, and which must be dispelled or neutralized before the peat can afford nourishment to plants.

Digging rocks (boulders) from grounds encumbered by them, may now be done advantageously. Stone walls are generally the best and most economical fences in such situations. They have the important recommendation, that when once made in a proper manner, they are perpetual. A trench, two feet deep, and somewhat wider than the base of the wall, should be dug for the foundation, which should be filled with the smaller stones that are not suitable for wall. A skillful and practical wall-layer, will know how to select and place the stones so as to make the most substantial and permanent fence.

Boulders that are not wanted for walls, may be sunk by digging holes under or beside them, so deep that they may fall below the depth to which the plow reaches. Those who have adopted this mode of disposing of boulders, state that it is much less expensive than to get them out by blasting with powder, employing men and teams to take them away.

It is an erroneous idea, though entertained by many farmers, that improvement will not *pay*. We believe this is in many instances, urged merely as an excuse for carelessness and negligence. It is a safe maxim that, what is worth doing, is worth doing well. We could refer to hundreds of instances where such improvements as we have spoken of have been made, with a greater profit on the money so expended, than is realized in the ordinary routine of farming. The lands operated on are frequently of little or no value; but by an outlay of fifteen to twenty-five dollars, are made to pay an annual interest of from fifty to a hundred, and sometimes two hundred dollars an acre.

Agriculture of Ohio.

Annual Report of the Ohio State Board of Agriculture.—This document comprehends the information brought out by the operations of the Board of Agriculture for the state of Ohio for the year 1849. The introductory remarks by the President of the Board, M. L. Sullivant, Esq., present a comprehensive view of the general progress of agriculture in the state, accompanied with useful suggestions in regard to its further advancement. It is stated that agricultural societies have been organised in more than fifty counties within the state. Township Farmer's Clubs, have likewise been formed in several instances, and weekly or monthly meetings are held by the members for the discussion of agricultural subjects. A spirit of improvement is said to be rapidly diffusing itself among the farming population, the good results of which are beginning to appear.

Crops.—The crops of the past year, except wheat and fruits, are considered good; but the wheat crop, which ordinarily reaches twenty millions of bushels in the state, it is stated did not exceed one-third that amount. The chief cause of the failure is attributed to the "red rust," in connexion with which the wheat midge (*Cecidomyia tritici*,) and the "sun-blight" are mentioned as having increased the injury in some instances. From all causes combined, the total loss to the farmers of the state is put down at thirteen millions of bushels, estimated as equivalent to eight millions of dollars.

The Mediterranean wheat is mentioned as having escaped the rust, in some parts of the state, better than other varieties—(probably from its earliness) —and that the quality of the grain is improving—the millers purchasing it readily with but little or no discount as to price.

Among means for the improvement of wheat culture, the use of the subsoil plow is recommended as follows:—"By its use, two very important points may be gained, less liability to winter killing, by allowing the water to settle down into the soil, and pass off, which also gives the roots of the plant *more room* to range in search of the requisite quantity of food."

The crop of Indian corn for 1849, is estimated at seventy millions of bushels for the state. The expense attending the transportation of this grain from the interior of the state, is so great that but little of it finds a market, except by its conversion into beef and pork. The improved mode of drying Indian corn by steam is alluded to, and the hope expressed that the process will soon make the exportation of steam-dried meal an article of importance.

The *rot in potatoes* is stated to have been less prevalent last year, than for several previous years.

Grass is spoken of as "the third if not the second crop in importance" in the state. It is said —"The profits of the grazing interest have been for several years in advance of the grain growing interest, if we take into consideration the relative amount of labor and capital required to carry on these branches of industry, and the uniformity and certainty of the markets for cattle and beef, giving a fair remuneration upon the investment."

Dairy Products.—The manufacture of butter and cheese in the Western Reserve, is spoken of as being practiced with success; and the new plan of making cheese in large establishments, which take the curd from the dairymen in a fresh state, is thought an improvement as regards the profits of all.

Raising Mules.—This branch of farming is thought profitable. It is spoken of as follows:—"The raising of mules is becoming an important branch of the stock business, and is decidedly the most profitable of any that the farmer can engage in. They may properly be called a staple stock; for, from an intimate acquaintance with the business, we can state that they afford the most uniform compensation, and they have been less subject to injurious fluctuations, and are fit for earlier sales than any other stock. Their average cost, at six months old, may be put down at twenty dollars per head, and this is a remunerating price to the *breeder* up to that age; and then with common keep on grain, hay and pasture, (if you have it) for the first winter, and with grain and rough feed through the next winter, entirely dispensing with grain afterwards, the *grazier* may calculate, with certainty, to advance his animals in price at least twenty dollars a year. Should he feed on grain all the time, it will pay him twenty cents a bushel for the corn in addition, up to the age of two and a-half to three years, at which time they are put to work or sent to market. The stock of mares in our country is well calculated for producing a superior quality of mules; and with the advantage of a large breed of Jacks, we need not fear competition with any part of the world. These animals are hardy and remarkably healthy, the deaths seldom exceed three per cent.; the care necessarily bestowed upon them is but trifling. The breaking and handling, or quieting, is of no advantage to the seller, the purchasers making that rather an objection than admitting it to be a benefit. Color and slight blemishes do not materially depreciate the price, and the farmer can calculate, with certainty, upon a market whenever he wishes to sell."

Wool-growing.—There are large portions of Ohio well adapted to sheep husbandry. It is remarked—"The grassy plains of the central portion, and the broken lands of the eastern and southern borders of our state, embrace a large territory of but little value for ordinary cultivation, but well adapted to the habits and constitutions of the different breeds of sheep and to the growing of fine wool."

But a great drawback to the successful keeping of sheep is their destruction by dogs, and the Legislature is appealed to for the adoption of some measure to prevent this evil. It is said—"The wolf has become extinct, or nearly so, but his place has been supplied by hordes of ravenous dogs, which have committed more injury within the last five years than all the wolves ever congregated within our borders, and this injury, which annually amounts to a heavy tax, our farmers have been obliged to submit to without redress or remuneration. This liability to injury from the depredations of dogs, undoubtedly retards, in a great degree, the improvement in our breeds of sheep, for but few enterprising men will be at the risk, trouble and expense of importing new and improved breeds of these animals, when they are thus liable to be torn to pieces and destroyed."

[By the way, did not the Legislature of Ohio, at its last session, pass an act in reference to this matter? Eds.]

Rearing and fattening hogs—Packing Pork.—This is a great business in the state of Ohio. "The number of hogs annually fattened, packed and exported from the state, probably exceeds one million. The average price being about two dollars and a-half per hundred pounds, and the average weight about two hundred pounds, would make the hog crop amount to five millions of dollars. The number of hogs slaughtered and packed in Cincinnati the present season, as we learn from an accurate statement made by the Chamber of Commerce in that city, is a little less than *four hundred thousand*. Within a few years, the business of packing hogs has extended to nearly all the interior towns of the state of any considerable size, and lying near the public thoroughfares, and still the number slaughtered and packed in Cincinnati has not diminished, but has steadily increased, in consequence of the supply of hogs driven to the city from Indiana and Kentucky. The breed of hogs throughout the state consists of a compound mixture; Berkshires, Bedfords, Irish Graziers, and, perhaps, a dozen other varieties, but pure stock of those named are such as to leave but little improvement desirable, except that they should supply the place, or root out the many specimens of "*woods hog*" and "*land pike*," that yet remain in many parts of the state."

New Articles of Culture.—Several of these are noticed as worthy of trial; as *broom corn*, which has already been introduced in some of the rich vales; and has produced in favorable situations, about one-third of a ton of cleaned *brush* ready for market, per acre, worth from $33 to $42. *Mustard seed* has been profitably grown in some sections. *Flax and hemp* are favorably noticed; the greatest obstacle to their profitable culture being the want of suitable machinery for breaking and cleaning the lint. The *planting of trees* for the production of timber for fences—such as catalpa, chestnut, black locust, &c.—is recommended, the trees to be set in rows around the outside of fields. The osage orange as a hedge plant is noticed, but its value for a permanent and convenient fence is considered not yet fully ascertained.

Implements.—The introduction of a *steel mould board plow* is recommended, as being better adapted for the rich alluvial lands, on account of its scouring more readily, and keeping cleaner than any other.

A **Scientific Agricultural Survey** of the state is advocated, which it is thought should be commenced as soon as practicable.

A **State Fair**, under the supervision of the Board, is to be held at Cincinnati on the 11th, 12th and 13th of September next.

Reading Books for Schools.—The *Massachusetts Plowman* suggests that an "important improvement in our common schools woulld be to introduce better matter for *reading*. Instead of puting young scholars to read of the celebrated men of old—warriors mostly, who acquired their renown by shedding human blood—let a part of their reading lessons consist in compositions relating to Agriculture."

Killing Sorrel.—According to the *Michigan Farmer*, plowing sorrel, with a shallow furrow, late in the fall, leaving the roots exposed to the action of the frost through the winter, has been found effectual in destroying that pernicious plant.

Letters from Prof. Norton—No. 8.

On the Nutritive Value of Oat Hay.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., July, 1850.

EDS. CULTIVATOR—In the January No. of the Journal of Agriculture, published by the Highland and Ag. Soc. of Scotland, I notice an article "on Oat Hay, and the relative nutritive value of oats cut green and cut fully ripe," by Dr. A. Voelcker, Prof. of Chemistry in the Royal Ag. College at Cirencester. The subject is one which has long interested me, and I call attention the more readily to the statements made here, inasmuch as Dr Voelcker is an old friend, in whose results I have much confidence. We have worked together in the Laboratory of Mulder, where he was first assistant, and I am sure that he will benefit the cause of agricultural science, now that his whole energies are devoted to it.

The idea of cutting grain while yet quite green, and of making it into hay in the same manner as grass, is not by any means entirely novel. Experiments of an imperfect nature have been made before the present ones, with this same end in view. Some of these have perfectly succeeded, while others have, if not unsuccessful, been at least less striking in their success. We have needed in the occurrence of these unsatisfactory experiments, some general principles upon which to reconcile them if possible, or at least discover the source of error, or by means of which we might more fully attain our object of inquiry. We need also the union of scientific with practical knowledge. Upon this subject, in order to the certain determination of many points, I will copy two or three sentences from Dr. Voelcker's paper.

"On the other hand I am convinced that practical men will remain in the dark on many of the most important points of agriculture so long as they despise the aid of chemistry, and persist in solving inquiries connected with agriculture by mere blind experimentising; by experiments I mean made without plan, or anything clearly defined and distinctly understood. If those engaged in such *random trials* would bear in mind that nature does not give a precise answer to an indistinct question; and if they would be candid enough to believe, in all cases in which an experiment has failed to answer their expectations, that the experiment itself, or the anticipated result, must be false in principle, and that consequently the fault is their own, and not on the part of nature—a great deal of good would be effected. Unfortunately, however, most men are as quick in condemning the value of the materials used in a bungling experiment, as they are eager to praise and enthusiastic in recommending every result when the experiment proves favorable to their views; and when such an experimenter has some kind of theoretical notion in his head with which the experiment can be *made* to tally, the case is still worse. In this way a great deal of harm has been done, and the progress of scientific agriculture retarded instead of advanced."

There is much of sound practical sense in the above remarks, and every person who has studied over the numerous unprofitable and wearisome discussions, which fill up many of our agricultural papers, will fully appreciate it. It is for want of knowledge as to what they are about, that the contradictory results of most experimenters are to be ascribed

In the present case, Dr. Voelcker seems to have happily united science with sound practical views, and we consequently have intelligible and reliable statements from him.

The first point to which attention was directed, regarded the proportion of water contained in the straw and grain of the ripe and unripe oat respectively; both samples being of the same variety and taken from the same field. As might have been expected, the green oats contained most water; this is shown by the following table:

Oats fully ripe.

Per centage of Water.		Proportion of Straw to Grain.	
Straw.	Grain.	*Dry* Straw.	Grain.
38.48	20.65	57.56	46.44
Oats cut green.			
53.30	28.66	65.43	34.56

I have taken the mean of the various results given, as some discrepancy appears in the single determinations. By this table, several general conclusions are indicated—

1. That the proportion of water in the unripe plant is greatest.

2. That the proportion of the *dry* straw in the unripe plant is greatest.

3. That when the plant is dry, the grain bears a larger proportion to the straw than would have been imagined; being, even in the green plant, more than one-third of the whole weight, and in the dry plant nearly one half.

The next step taken by Dr. Voelcker, was to determine the nutritive value of his several samples. In this case regard was had only to the amount of nitrogen contained in them, that being considered the most important ingredient, in estimating any particular variety of nutritious food. He calls the body in oats which contains nitrogen, by the general name of protein; this name applying to a class of bodies that contain about as much nitrogen, and that are about as nutritious, as lean meat when it is dry.

The proportions, or per centages of protein obtained by Dr. Voelcker were as follows:

I. *Oats fully ripe—Mean results.*

Grain, 15.39 pr ct. of protein compounds.
Straw, 8.46 " " " "

II. *Oats cut Green.*

Grain, 17.87 pr ct. of protein compounds.
Straw, 11.01 " " " "

No. II. was cut when the stalk and leaf were yet quite green, and the grain milky, but fully formed. They were cut at the same time, the green oats having been sown about one month later than the others.

The conclusions to be drawn from the above results are not only extremely interesting in a scientific point of view, but are of much practical importance.

1. We see in comparing the numbers in the ripe and unripe straw, that the latter contains 3½ pr ct. more nitrogen than the former.

2. That the unripe grain also contains more nitrogen; this may seem a very strange result, but may be explained when we consider the fact, that the unripe oats, although they had not attained their full bulk, had received most of their nitrogenous compounds, and that the after increase while ripening, must have consisted mainly in an accumulation of starch, and other non-nitrogenous bodies.

In addition to the facts established by these analyses, it is to be borne in mind, that the unripe straw is also much richer in starch, gum, sugar and other compounds of the same nature, all of them both nutritious and easily digestible, but which are for the most part in ripening, gradually converted into woody fibre.

Here too the larger quantity of water, which has been already shown to exist in the unripe straw, is to be brought into account. This water helps to render the food more soluble, and more easily digestible by the animal. We find then that an equal weight of the unripe straw and grain, contains more nitrogen, more sugar and gum, and also more water; so that while it is more nutritious, it is also at the same time more easily assimilated and digested by the animal. This last is a point of more importance than is usually imagined. Of two kinds of food containing equal quantities of nitrogen, one may be vastly superior in its effects when fed, and this simply because it can be readily digested; a large portion of the other may even pass through the body unaltered.

Dr. Voelcker gives, in addition to his theoretical results, two letters from farmers who have seen oat hay tried. One of them says, "that when cut fine, oat hay goes one-fourth farther than if the oats and straw had been allowed to ripen."

In many parts of the country, it is very difficult to produce good grass for cutting, but easy to grow quite tolerable oats, at least so far as bulk of straw and appearance of head is concerned. The grain may not fill out well if allowed to stand, but still would serve a good purpose as fodder when cut green and made into hay. There is no loss of the grain by shelling when cut in this way, and the hay would be highly relished by stock.

I have no doubt but the same system would do well in the case of rye, or other grains; hay made from them would also be exceedingly nutritive. The facts given in the report of Dr. Voelcker, are quite sufficient to warrant my calling attention to this subject, and recommending experiments in such districts as feel the need of good winter fodder, and this of a variety that can be obtained without great expense. JOHN P. NORTON.

Action of Soils on Manures.

Professor WAY, consulting chemist to the Royal Agricultural Society, has lately made known the results of some important experiments made by him for the purpose of ascertaining the action of soils on the constituents of manures. Some of these experiments were repeated before the Council of the Society, and the following is the substance of the account reported in regard to them.

On the table were glass filter-jars, containing a red soil from Mr. Pusey's estate in Berkshire. The soil, as the gentlemen present would see, occupied the jars to the depth of five or six inches. Upon one of these Mr. Way poured water obtained from one of the sewers of London. To another filtering jar he added a quantity of the fetid liquid produced in the steeping of flax. Both of these liquids were turbid, highly colored, and exceedingly offensive to the smell; but when passed through the soil, they were no longer the same. The resulting liquid had an earthy smell it is true—a smell always accompanying soils—but was no longer offensive to the nose. Now to what ingredient of the soil was this metamorphosis due? Was it due to the sand acting as a filter? It was easily proved that such was not the cause; and that there might be no doubt on this subject, Mr. Way would pass through a filtering-jar, containing more than nine inches depth of fine white sand, a quantity of cow's urine taken from a tank in the country. The liquid was so far altered by the filtration, that the turbidity was removed, as it would be by filtration through paper; but the color and disgusting smell remained in all their intensity. Sand, therefore, obviously was not the active ingredient in soils in respect to the power under discussion. The same must be said of the different forms of gravel, which were only coarse sand. The other great ingredient of soil was clay, and to this Mr. Way attributed the power in question. As an experiment comparative with the last, he would pass the same tank water through sand, mixed with one-fourth of its weight of white clay in powder, and they would observe the result was very striking. The liquid coming through was clear and free from smell; indeed it was hardly to be distinguished by its external characteristics, from ordinary water. There could be no doubt then, that the property of soils to remove coloring matters, and organic matters yielding smell from solution, was due to the clay contained in them. Filtration was only a method of exposing the liquid in the most perfect form to the action of the clay, but it was not necessary to the success of the process. In proof of which, Mr. Way stirred up a quantity of soil with putrid human urine, the smell of which was entirely destroyed by the admixture, and upon the subsidence of the earth, the liquid was left clear and colorless. It appeared, therefore, that the clay of soils had the power of separating certain animal and vegetable ingredients from solution; but was this property the only one exhibited? Mr. Way had found that soils had the power of stopping also, the alkalies, ammonia, potash, soda, magnesia, &c. If a quantity of ammonia, highly pungent to the smell, was thrown upon a filter of clay or soil, made permeable by sand, the water first coming away was absolutely free from ammonia. Such was the case also with the caustic or carbonated alkalies, potash, or soda. This was a very wonderful property of soils and appeared to him as an express provision of nature. A power, he remarked, is here found to reside in soils, by virtue of which not only is rain unable to wash out of them those soluble ingredients forming a necessary condition of vegetation, but even those compounds, when introduced artificially by manure, are laid hold of and fixed in the soil, to the absolute preclusion of any loss either by rain or evaporation.

But Mr. Way had found that this property of clay did not apply only to the alkalies and their carbonates, but to all the salts of these bases, with whatever acid they were combined. Here again was a beautiful provision; sulphate of ammonia, when filtered through a soil, left its ammonia behind, but the sulphuric acid was found in the filtered liquid—not, however, in the free state, but combined with lime; thus sulphate of lime was produced, and brought away in the water. In the same way muriate of ammonia left its ammonia with the soil, its acid coming through in combination with lime, as muriate of that base. The same was true of all the salts of the different alkalies, so far as he had yet tried them. Thus lime in the economy of nature was destined to one other great office besides those which had already been found for it—it was the means by which the salts ministering to vegetation became localised and distributed through the soil, and retained there until they were required for vegetation. Quicklime, when dissolved in water, is removed by passing the water through clay or through most soils containing clay; and carbonate of lime in solution is so effectually removed, that hard water may be softened by the same process.

With regard to the extent to which these actions were capable of being carried. It was not to be supposed that we could go on filtering indefinitely with the separation of the salts contained in the liquid. On the contrary, the limit was soon reached; but although small in per centage quality, the power was, in reference to the bulk of the soil, enormously great. He had found that a pure clay would absorb, perhaps, two-tenths per cent. of its weight of ammonia—that is to say, 1,000 grains would separate two grains of ammonia; and from reasons which need not then be noticed, a loam or a well-cultivated clay soil would absorb nearly twice as much. Now every inch in depth of soil over an acre of ground weighed about 100 tons. Consequently, ten inches of depth of such soil, would weigh 1,000 tons, and would be adequate to combine with and retain two tons of ammonia, a quantity which would be furnished by about twelve tons of guano. Now, one-sixtieth of this power would suffice for the preservation of the ammonia of an outside dose of guano; consequently, he was justified in saying that the property was practically of immense activity. Mr. Way stated that he had ascertained the extent of the power in different soils and for the different alkalies. The property was decidedly a chemical one; and although he intended only to state the facts, without entering upon their explanation, he might say that he had every reason to believe that he should be able to develop that satisfactorily at the proper time.

At a subsequent lecture Prof. Way stated that he was first led into this train of investigation by having been informed by one or two persons that urine, by being passed through certain filtering substances, might be entirely deprived of its coloring matter and odor. Prof. W. said he was not only deeply interested in these statements, but totally unable to account on chemical principles for the effects thus simply produced; and of so high a degree of importance did he consider them, as fertile in a series of new facts, which would lead not only to new views of chemical combination, under peculiar mechanical conditions, but also to a modification of the theory of the mode by which manure is reserved in the soil until required as food for plants, and to immediate application in practical agriculture, and he lost no time in verifying these results, and endeavoring to account for their occurrence. As he proceeded in this path of inquiry, the new facts, as they rapidly succeeded each other, were such as would have been totally unexpected on the ordinary principles of combination; and which would eventually, he had no doubt, lead to new modes of regarding chemical action when taking place under certain conditions. Prof. W. then proceeded to show experimentally the power of finely divided clay soils to abstract the coloring matter and smell from logwood water, London porter, putrid urine, infusion of flax, and tank water; and to explain the probable manner in which such soils decomposed the salts of ammonia, arresting that alkali and replacing it by lime; and also by what a beautiful provision of nature the substances valuable as food for plants were retained in the soil, while other results of such decomposition were allowed to pass through it, one of those provisions in the operation of natural laws, which strikingly arrest the attention of the most inconsiderate, and mark the beneficence and wisdom of the Creator, of whose work only perfection is the unvarying attribute.

The committee have resolved that the following subjects be adopted for investigation during the ensuing year:

1. The continuation of the investigation into the absorptive properties of soils, including clays.
2. The nutritive properties of the grasses.
3. The agricultural properties of the chalks and marls.
4. The chemical properties of water, with a view to its effects on irrigation, and on the health of animals.

The Life of the Farmer Favorable to the Pursuit of Knowledge.

Eds. Cultivator—I was highly gratified in reading the article from your correspondent, Hon. F. Holbrook, on the question "Should the Farmer be a man of knowledge?" I think he has shown plainly enough, that the farmer should be a man of knowledge, not only as a farmer, but as a rational being, and as a member of society.

But notwithstanding the obvious advantages of knowledge to the farmer, there is a prevailing impression, especially among intelligent young men, that the pursuit of agriculture is unfavorable to the pursuit of knowledge, and the general cultivation of the mind,—that the life of a farmer is a life of drudgery and toil, without any stimulus or opportunity for intellectual improvement,—and that if a farmer is intelligent, he is so in spite of the earthly degrading tendency of his occupation. The celebrated John Foster, of England, in a letter to his mother, speaks of the people in the agricultural parts of the land as "extremely ignorant and dull of apprehension," and then remarks, "Field occupations, with their attendant and consequent habits, notoriously tend to stupify the mental faculties;" that is, those who till the soil are, as a matter of fact, not only ignorant, but this occupation has a tendency to stupify the mind, and keep them ignorant! Now, although Foster might have found, in this country, that the farmers are very far from being "ignorant, and dull of apprehension," he would have found a great reluctance among young men to engage in agriculture, as though it were in fact degrading and stupifying to the mental faculties.

We maintain just the opposite view,—that the occupation of the farmer is favorable to the pursuit of knowledge,—favorable to intellectual health, activity, and vigor of mind, so that if a young man has a taste for knowledge, he should for this very reason, be a farmer, because he can thus gratify this taste for knowledge better than in any other calling.

1. The life of the farmer is favorable to the pursuit of knowledge, because it is favorable for health. It is admitted that agriculture is a healthy occupation—healthy for boys and for men. Many men, of broken down constitutions have renewed their age by leaving the shop or the counting-room, and following the plow. The farmer, who breathes the fresh air, and listens to the songs of birds, and sees so much in nature to interest him, is seldom troubled with hypochondria, dyspepsia, and indigestion, which are as injurious to the pursuit of knowledge as to happiness and health. The man who has been confined in his shop all day, if he has a little leisure, wishes to go out and breathe the fresh air, *as he should do*, to recover his elasticity of mind and body. The shoemaker and tailor cannot take up a book with the same zest at noon or at night, as the man who has been breathing the fresh air. Who does not envy the health, strength, and cheer of the wood chopper, the reaper, the mower or the plowman, not only as a means of happiness but as favorable to intellectual vigor and the pursuit of knowledge?

"Hark! where the sweeping scythe now slips along,
Each sturdy mower, emulous and strong,
Whose writhing form meridian heat defies,
Bends o'er his work and every sinew tries;
Prostrates the waving treasure at his feet,
But spares the rising clover short and sweet.
Come health! come jollity! light-footed, come;
Here hold your revels and make this your home.
Each heart awaits and hails you as its own;
Each moistened brow that scorns to wear a frown."

Can there be any doubt that the occupation which gives such health and cheer to the farmer, is favorable to the development of the mind, and the pursuit of knowledge, especially when we consider the intimate connection between health of body and health of mind, and how many minds are necessarily feeble, stinted, and *sickly*, because dwelling in a feeble and sickly body?

2. The farmer has *leisure* for the pursuit of knowledge. Aside from the leisure which winter evenings, rainy days, and intervals between hurrying seasons of labor afford; he can, almost every day, snatch a few moments, or an hour for reading, *if he has a desire for improvement*. If the farmer chooses to spend his leisure at the stores and taverns, or in idle vacancy, dreaming and dozing away his life, working like his ox, and like his ox only eating and sleeping, he can do so,—but let him not blame his occupation, for if he only has a thirst for knowledge he can gratify it. No laborer has more leisure for improvement than the farmer.

And, besides, the leisure of a farmer is worth more to him, in the pursuit of knowledge, than that of other laborers, not only because, from his good health and spirits, he is better prepared to improve this leisure, but because it will furnish him with food for thought, reflection and inquiry, during the day; his work, much of it, being of such a nature as to afford opportunity for digesting what he has read, especially if it relates to agriculture. The reason many farmers are no more intelligent is, *not because they have no leisure*, but because they *do not improve their leisure*. The most ignorant farmers are by no means the most industrious. Some of the most industrious, efficient farmers of my acquaintance, are the most intelligent also. Nor does their intelligence make them lazy, but rather stimulates them to labor. They take hold of labor, too, with more zeal and interest, and feel less tired at the close of the day, than the mere *drudge*, whose vacant mind is uninterested in what he sees and does. The man who is to work on a compost heap will not do less, but more work, if he spends a few moments in reading an essay or lecture on manures, so that he may labor *intelligently*.

3. Agricultural pursuits have a healthy influence on the mind, and thus favor the pursuit of knowledge. The farmer is free, on the one hand, from the tormenting excitement, anxiety, and perplexity of the merchant and trader, and on the other hand, from the dullness and monotony of the day laborer, or the mechanic, who does one thing the year round. Too much excitement or too much dullness and uniformity are alike unfavorable to mental vigor and improvement. The constant variety of objects which occupy the attention of the farmer, the interest he feels in his crops, and his growing stock, keep the mind active and healthy, contributing not only to his happiness, but to his mental improvement, giving the mind an appetite for knowledge, as well as the body for food. The influences that surround the farmer are as favorable to health of mind as health of body; hence, if a man has a taste for knowledge, he may choose the life of a farmer, as being well adapted to gratify this taste. His labor will not unfit the mind for improvement.

4. The occupation of the farmer affords him an opportunity to cultivate an acquaintance with the natural sciences, and is thus favorable to the pursuit of knowledge. The shoemaker, or the blacksmith may be interested in the study of meteorology, but his daily occupation does not, like that of the farmer, give him an opportunity to observe the weather, the wind, clouds and storms, and their influence on vegetable and animal life. The mechanic must have his shop, and the lawyer his office to make observations on nature, but the farmer must shut his eyes not to make these observations. He need not leave his work to observe the different kinds of rocks and soils he meets with, and the nature of these soils. If he has a taste for natural history, he need not waste an hour or two in the morning, to listen to the sweet music of various birds, and learn their habits, for his daily occupation gives him the best chance in the world to notice the habits of birds, animals and insects. The book of nature is constantly open before him, inviting him to read her laws. The investigation of the laws of nature affords a pure and exalted source of happiness; but who is so favorably situated to investigate these laws,—*while pursuing his appointed labor*—as the farmer? Who can so well learn the laws of vegetable life, as he who is constantly experimenting on those laws? Who can so well observe flowers, grasses, plants grains and trees, and their habits, as the farmer, whose business it is to cultivate them, and bring them to perfection?

It seems to be a wise provision of our Heavenly Father that the great book of nature, so interesting and full of instruction, should be constantly open to the *tillers of the soil*, who are the largest part of the human family. Farmers are just beginning to see how interesting this book is, and that they may find both pleasure and profit in reading this book—a pleasure that lightens toil, and dignifies labor, making the occupation of the farmer suitable, not only to a *physical*, but to an *intellectual* being.

5. The practical advantage to be derived by the farmer from an acquaintance with science, renders his occupation favorable to the pursuit of knowledge. The natural sciences, Botany, Geology, Chemistry, and many others, are not only interesting in themselves, but intimately connected with the cultivation of the farm. It is by the aid of these sciences that the great improvements in agriculture have been made the past few years, and that we may expect improvements hereafter. If the farmer will not study science because it is interesting, he must study it because it is *useful*,—because it is necessary to the successful cultivation of his land. However interesting science may be, the great mass of laborers, having little leisure, and no particular taste for science, do not pursue it. Even professional men do not. They have no stimulus to pursue it, as the farmer has. For the same reason that a lawyer is favorably situated to obtain a knowledge of law, or a clergymen to obtain a knowledge of theology, a farmer is favorably situated to obtain a knowledge of the sciences. As a lawyer who has a case to try on insurance, on assault and battery, or trespass, will take more interest in examining the law on those subjects than a farmer, or a physician; so will the farmer who is constantly working the soil, mixing manures, and raising crops, take more interest in essays on these subjects than a lawyer, a shoemaker or a mechanic. The farmer will consult Johnston and other authors, for the same reason that a lawyer will consult Blackstone and Kent.

A merchant or mechanic may read an analysis of the different kinds of grain, of the different soils and manures, but he has no such motive to remember this analysis, and be *interested* in it, as the farmer has, who is constantly raising grain, mixing soils and manures. The man who is applying ashes, lime, or plaster of Paris to his soil, will be more interested in an explanation of the mysterious and diversified agency of these substances, and of the adaptation of each to particular crops, than a man who is writing sermons, or pleading law, or making shoes, or selling goods.

The farmer, therefore, has extraordinary facilities and motives to become acquainted with science, for almost every science aids him in his work, gives him skill and power, as well as pleasure and profit. He can read the theory, and then test the theory by his observation and experiments. Science comes not only to please but to profit; not only to enrich his mind with knowledge but to enrich his farm,—to improve his fruit and stock—to fill his barns and granaries. Formerly, it was thought a farmer had no use for knowledge. Now it is found that no laborer has more use for knowledge. Even the professional man has less use for science than the farmer.

It is not true, then, that field occupations "*tend to stupify the mind*," as Foster remarks. But they have the opposite tendency, to awaken intellect, and stimulate curiosity in the pursuit of knowledge. Nature is constantly before the farmer, proposing problems for him to solve; questions for him to answer; tempting and provoking him to read her laws; by making knowledge contribute to his health, as well as to his happiness. He need not travel out of his way, or leave his work, to find the book of nature, and observe her lessons and laws. No other laborer has so many facilities, or so many inducements to pursue knowledge and read nature, as the farmer, who is constantly experimenting upon the laws of nature.

6. I observe in conclusion that the pursuit of agriculture is favorable to the general development and cultivation of the mind. It furnishes a home for the farmer and his family, a pleasant, *rural home*—one of the most essential means of moral, social, and intellectual improvement. The farmer and his children are free from many temptations to vice, intemperance, idleness and extravagance, which are the bane of intellectual improvement. His life is adapted to develop self-reliance, energy, manly independence, as well as habits of observation, comparison and reasoning. In the rotation of crops, the application of manures, the cultivation of fruit and raising stock, and in planning the work of a farm, as well as in buying and selling, there is abundant exercise for the judgment of the farmer. The business of the merchant is said to be favorable to developing the judgment, but we submit whether the occupation of the farmer does not afford a more enlarged and healthy sphere for the exercise of the judgment, than that of the merchant or mechanic.

I noticed, recently, a paragraph from Elihu Burritt, the import of which was, that the mechanic was more favorably situated than any other class of people, to obtain knowledge and cultivate his mind. But is not the occupation of the farmer quite as favorable to health, and elasticity of both mind and body? Does it not afford as much or more leisure for improvement? Does not his occupation, which is a series of experiments on the laws of nature, give him a far better opportunity to observe these laws, and become acquainted with and interested in them, than that of the mechanic? Do not the numerous successful applications of science to agriculture, afford a greater stimulus to pursue these sciences, as well as a better opportunity for the cultivation of the mind, and the exercise of the judgment, than can be found in the more monotonous employment of the mechanic?

If the farmer, therefore, remains ignorant and stupid, it cannot be for want of opportunity for improvement. He is a workman, an experimenter in the great Laboratory of Nature, where all he sees and hears invites him to observe, and inquire, and learn; where he can employ in his daily labor, whatever knowledge he may possess, and find motives to obtain more knowledge. The means of knowledge, too, are within his reach, so that his life need not be a life of drudgery and toil, unless he chooses to make it so. To be sure, the farmer must *work*, and work hard, and therefore he needs the stimulus of knowledge; for knowledge will stimulate and encourage him to work, so that he can, not only do more work, but do it also to better advantage. *Intelligent labor is the most successful labor.* Many men who find no stimulus to labor, when it is a mere exercise of physical strength, will labor with zeal and enthusiasm, if the *mind* is only interested, at it may be in almost all the work of the farmer.

The occupation of the farmer, then, should be chosen, not merely as favorable to competence, contentment, independence, health, morality, and the social virtues, but also as favorable to the pursuit of knowledge and the cultivation of the mind.
JAMES TUFTS. *Wardsboro, Vt., June*, 1850.

The Reviewer.

Poultry and Poultry Books.

THE POULTRY BOOK: a treatise on feeding and general management of fowls; with numerous original descriptions and portraits from life. By JOHN C. BENNETT, M. D.

THE publishers of this work state, that "to the author, is due the credit of having originated the interest now felt in respect to poultry." The author himself states that he was frequently requested to publish the book, by poultry breeders and fanciers; and in proof of its important character, he tells us that in preparing it, "all accessible authorities have been consulted," though he deems it unnecessary to mention the books which have been laid under contribution, as it would only make a "pedantic display." In addition to this, we are told there has been "a *vast mass* of correspondence" which has brought out much important matter, "not elsewhere to be found." He also congratulates himself on one or two other points. "Special attention," he says, "has been given to the description of the varieties of fowls, and it will appear on examination that great labor has been expended on this department; and the author flatters himself that *a remarkable degree of accuracy has been attained*." The "original portraits" of fowls which are given in the book, are deemed by the author to possess "great importance and value," and he thinks they "will add to the fame of the eminent artists" by whom they have been executed. Finally, the author prides himself especially on the character of the department of the book relating to the breeding and management of poultry—a department which, we are told, "is designed to be a *vade mecum*;" and he complacently concludes, that "in no other work, can similar information be found."

These are certainly high claims; how well they are supported, we shall see, as we proceed with our examination of the work.

The chapter on the "origin of the Domestic Fowl," comprising seven pages, is, almost every word, copied from Richardson, with no intimation of credit, except in a few of the latter paragraphs.

The public will judge whether this omission to give the "requisite credit," is in accordance with the principles which should govern authors.

The primary object of the author seems to have been to multiply varieties or breeds of the domestic fowl, or to describe those already known under such names, and in such terms as would lead to the belief that they are rare and desirable. Hence of the Malay tribe of fowls, he has the Chittagong, the Shanghae, the White Shanghae, the Cochin China, the Royal Cochin China, (Burnham's importation,) Cochin China, (Baylies' importation,) Great Malay, the Shakebag, Common Malay, the Great Java, and the Guilderland fowl. Persons acquainted with the fowls described under these names, will readily recognize affinities which prove them to belong to the same stock. They are not arranged precisely in the order here given, but are mixed up, in several instances, with other varieties.

The Chittagong is represented by cuts which purport to be portraits of fowls from Mr. Rugg, who it is declared "is beyond dispute, one of the best fowl breeders in America," and whose fowls, it is said, "excite astonishment and admiration, in all fowl fanciers." A quotation is made from a letter of Mr. Rugg, in which he complains that this breed has heretofore been confounded with the great Malay, whereas he thinks they have "points of difference which will be found to be important." Dr. Bennett attempts to justify this notion by reference to Richardson, whose cuts and description of the Malay he copies, giving the customary credit and marks of quotation, but with an interpolation of two words which entirely change the sense and purport of the language. Richardson says of the Malay,—"This fowl is also frequently called the Chittagong,"—evidently intending to say, as almost every English writer on poultry has said, that the terms Malay and Chittagong, refer to the same fowl; and to prevent this being said, Dr. Bennett inserts the words "but erroneously," making Richardson say "this fowl [the Malay] is frequently, *but erroneously*, called the Chittagong!" It is proper to notice that there is nothing to show that the words alluded to were added, or that they were not in the original. Without stopping to comment on the *honesty* of this act, I will simply offer one quotation, though many similar passages by various authors might be adduced, to show that the Malay and Chittagong fowl are the same. In the work entitled "*Farming for Ladies*," by the "Author of British Husbandry," page 75, it is said—"The Malay or Chittagong, are natives of the isles of Java and Sumatra, from whence they have been introduced into this country [England,] where they are now common, and are the largest known breed of fowls."

Dr. Bennett makes three breeds of Cochin China fowls. The first of which is simply called "Cochin China," and the cuts accompanying are copied from Richardson, together with that writer's description of the Queen's fowls. One would naturally suppose that these were *royal* fowls, if any could be called such; yet the next chapter has the caption "Royal Cochin-China Fowl—Burnham's importation." Here we have what are called "original portraits" of Mr. Burnham's fowls, and Dr. Bennett triumphantly declares that this representation "is believed to be the only correct delineation of the *species* extant," and he "flatters" himself that it "will henceforth be deemed the standard of comparison!" In the same style of vulgar boasting, it is added that "Mr. Burnham's importation *is the best* of the Cochin-China *race* which have been brought to this country;" and to crown their lofty pretensions, it is stated that Mr. Nolan's stock, from which Mr. Burnham's came, "took the premium at one of the agricultural fairs in England, while standing at the side of Her Majesty's fowls." It is not stated that Her Majesty's fowls were in competition for premium with Mr. Nolan's, and yet, notwithtanding the ridiculousness of such an idea, it is obviously intended to make the credulous and ignorant believe it, by saying that Mr. Nolan's fowls were "standing beside" Her Majesty's.

Dr. Bennett pretends to know the precise origin of the Cochin-China fowls, and dogmatically asserts that they "are derived from a mixture of the Chittagongs and Shanghaes; yet he says, "those imported into England, undoubtedly participate in the blood of the Wild Indian game." He thinks this idea is "corroborated by the fact that English writers pronounce them to be game, when speaking of their habits and prowess;" and he concludes that these "facts" (?) prove "the Queen's and Mr. Burnham's fowls to be different from what are commonly called Cochin-Chinas, which are the mere cross of the Chittagongs and Shanghaes." [pp. 46, 47.]

But the "fact" in regard to the Queen's fowls being "game," which was supposed to prove them to be "different from what are commonly called Cochin-Chinas," turns out, by Dr. Bennett's own showing, to be no fact at all; for at the conclusion of the chapter, (page 50) he says, "It may be well to add, that the *London Illustrated News* has fallen into another serious error in respect to the Royal fowls, in saying that 'the cock is *game*, to the last degree, capable of killing the most powerful game cock in a few minutes.' This is impossible, on account of their size and shape."

Thus what is given as "fact" on page 46, is condemned as "serious error" on page 50!

But there are other strange inconsistencies connected with Dr. B.'s description of the Cochin-China fowl. It will be noticed that he calls them a "*species*" and a "*race*," and yet, strangely enough, on the same page he asserts that they are "derived from a *mixture*" of what he calls distinct stocks! Such palpable contradictions can only be accounted for on the supposition that the author is grossly ignorant of the terms he employs.[*]

The cuts representing what Dr. B. calls the "Common Malay fowl," are copies of those which Mr. Bement gives for the "Bucks County fowl." We are told—"the best varieties of this *breed* in this country, are the Jersey Blues, the Bucks County and the Boobies." The Jersey Blues are said to have "all the characteristics of the East India fowls," but "have diminished in size by neglect and careless breeding." Yet notwithstanding this "neglect" and diminution of size, Dr. B. gives the statement of Mr. Rugg, that the "he has known in a single instance, caponised fowls of this variety weigh twenty-five pounds a pair," and it is added that the farmers of New Jersey "set a value upon the stock equivalent to that which the Dorking bears in England." Rather singular evidence of "neglect and careless breeding."

The Bucks County and Booby fowls are summarily disposed of as "unprofitable," being, "with what are called Malay fowls in the vicinity of New York, degenerate varieties." But the reader will perhaps be surprised to find that notwithstanding the degeneracy of what are called Malay fowls about New York, Dr. Bennett, in describing the "Great Java fowl," refers to specimens in the possession of two persons which he deems "among the most valuable fowls in the country"—the cock weighing at one year old ten pounds, and the pullet nine pounds and a quarter—which were, he says, "purchased in New York as Malays." Thus the Malay fowls about New York *degenerate* into "Great Javas"!

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[*] Dr. Prichard, in his "Natural History of Man," gives the following definition of species: "Species are simply tribes of plants or animals, which are ceratinly known or may be inferred on satisfactory grounds, to have descended from the same stocks, or from parentages precisely similar, and in no way distinguished from each other." The same author defines varieties as follows: "Varieties differ from species in this circumstance, that the peculiarities in question are not coeval with the tribe, but sprang up in it since the commencement of its existence, and constitute a deviation from its original character."

In regard to the color of these fowls, we are told by Dr. Bennett, in his usual dogmatical style, that "like all other pure Java fowls, they are of a black or dark auburn color!" But who does not know that fowls from Java comprise almost all varieties of color?

But as we proceed in the examination of Dr. Bennett's book, we are more and more impressed with his extraordinary genius. His skill extends even to the restoration of varieties of fowls which have been long extinct; such as the Shakebag, and the crested fowl with white plumage on the body, and a large black top-knot.

The Shakebag fowl was brought into notice in England about eighty years ago, but according to Martin, Dixon, and all late English writers, has not been seen for many years. But Dr. Bennett has *borrowed* a couple of figures, which he pretends are original delineations of Shakebag fowls imported by Mr. Tucker of the Tremont House, Boston! His description of this resuscitated Shakebag, with some of the circumstances connected with it may amuse the reader. He begins by saying—"This fowl has so many points of affinity with the Malay tribe that there can be no impropriety in associating it with them. It is more beautiful than most of the variety—[what "*variety*"—the Malay, which he has just called a "*tribe?*"] the plumage of the cock being extremely brilliant and gaudy."

He then goes on thus—"The fowls delineated here, were imported by Mr. John L. Tucker, of the Tremont House, Boston, and were drawn from the birds [now] in possession of Mr. James S. Parker, of the Samoset House, Plymouth. A glance at the portraits will show that they are magnificent birds. *They are exceedingly rare in this country, this being the only importation of which I have kowledge.*"

The description of the plumage, &c., of these pretended Shakebags is added; but before inserting this, it is necessary, in order to render the subject fully intelligible, to introduce some collateral illustrations. It will be shown that the pair of fowls above alluded to, described by Dr. Bennett in his book, pp. 54 to 56, as Shakebags, were described by him in the Boston Cultivator of August —, 1849, as "Great Malays," accompanied by a cut of the Malay Fowl, copied from Mr. Bement's work! In the latter article he complains that the Malay fowl in this country, has "degenerated by 'close breeding,' until a vestige of the pure Malay can scarcely be traced." (It is rather queer that "close breeding" should destroy the "purity" of the breed, whatever its disadvantages in other respects.) But he continues—"Some of those [Malays] of the purest blood were imported by Mr. Tucker of the Tremont House, Boston, under the name of 'Dorkings,' and were presented by him to Mr. Parker, of the Samoset House, Plymouth." It will be observed that the "habitations and names" of persons agree with those given by Dr. Bennett when speaking of the Shakebag. The particular description, given in one case as that of the Shakebag, and in the other as that of the Great Malay, will doubtless be read with interest. It is as follows:

Dr. Bennett's description of the Shakebag, "Poultry Book" page 56.	*Dr. Bennett's description of the Great Malay, in the Boston Cultivator.*
The plumage of the male is brilliant in the extreme, being of a bright red and glossy yellow, beautifully blended, and shaded with black, so as to present a most beautiful and captivating appearance. The hackles of the rump are long and drooping, and of a golden-reddish color. The comb and wattles are large and single; legs large, yellow, and destitute of feathers; tail long and drooping, with rich glossy plumage. The gait is lively and majestic; in a word, it is the handsomest of any of the large breeds, and should be classed with the best varieties. The hens are of a bright yellow and glossy brown, good layers, good nurses, and very domestic. The eggs are rather large, well-flavored, and of a pale-reddish color. Their flesh is very fine, for so large a fowl.	"The plumage of the male is brilliant in the extreme, being of a bright red and glossy yellow beautifully blended, and shaded with black, so as to present a most beautiful and captivating appearance. The hackles of the rump are long and drooping, and of a golden reddish color. The comb and wattles are large and single; legs large, yellow, and destitute of feathers; tail long and drooping, with rich glossy plumage. The gait is lively and majestic; in a word, it is the handsomest of any of the large breeds, and should be classed with the best varieties. The hens are of a bright yellow and glossy brown, good layers, good nurses, and very domestic. The eggs are rather large, well-flavored, and of a pale reddish color. Their flesh is very fine, for so large a fowl."

Of game fowls, Dr. B. claims to have produced a new and superior *breed*, which he denominates the "Yankee game fowl." He gives of this "breed" what he calls a "portrait taken from life." He says, "this fowl was originally produced between the Plymouth Rock and Indian Game hen." As some may inquire—what is the Plymouth Rock fowl? I give Dr. B.'s account of its origin. "The Plymouth Rock fowl is in reality, one half Cochin-China, one-fourth Fawn-colored Dorking, one-eighth Great Malay, and one-eighth Wild Indian; having five primitive bloods, Shanghae, Malay, Game, Turkish, and Indian." [page 77.] Will he tell us the proportion of these "primitive bloods," and other blood in the "Yankee Game breed?"

But does Dr. Bennett mean that the fowls to which he applies the term "primitive" are really an original, distinct, and pure stock? This certainly would be a legitimate inference from the term. But if we turn to the chapter on "Breeding Fowls," page 194, we find it stated, point-blank, that—"*All the breeds in this country are crosses produced by accident or design.*"

A variety of fowls is described by Dr. Bennett, accompanied by a cut, as the "English Raven fowl." I have never before seen or heard of any variety of fowls under this name. Like the fabulous Shakebags, the white fowl with a black top-knot, and all the new-fangled imaginary varieties, "the pure bloods" we are told "*are very rare.*"

In regard to the Dorking fowl, Dr. Bennett has formerly talked of there being several breeds; thus in his "Essay on the Domestic Fowl, written exclusively for the Boston Cultivator"—and which constituted the chief ground-work of his "Poultry Book," he spoke of the "Pearl-white Dorking," the "Fawn colored Dorking," "Dappled Dorking," &c; but in his book, though he gives a cut and description of the "Fawn-colored Dorking," he comes to the conclusion that "it is really a misnomer," and that the "white and speckled are the only pure varieties"—all others being "hybirds." He gives us the authority of L. F. Allen, that the Dorkings have "both double and single combs," but a few pages further along says *for himself*, "*it should be remembered that all pure Dorkings have rose combs*," &c.

Passing over Dr. B.'s description of several varieties, without stopping to comment on many of his vague and undefineable ideas, we come to the Polish, or Top-Knot fowls, of which we are presented with some striking original illustrations. The skill of the "artist," prompted by the ingenuity of Dr. Bennett, has brought out a cut of the white fowl with a black top-knot, which, if it ever existed, is considered by most late writers as having been long extinct. Dr. B. says—"This variety of Polish fowl is the most pure and unmixed of the three; it is indeed, the uncontaminated descendant of the great fowl of St. Jago. Its color is a brilliant white with a jet black top-knot." He states that various applications have been made to persons in Germany and Poland to procure specimens of this breed at any cost, but that the answers were, "they were no longer to be had." He remarks—"I have never myself seen a specimen of the breed, and have every reason to suppose it to be extinct or nearly so." And yet, as if to confound his own language, he says in the next paragraph—"Of this variety there are some beautiful specimens in this country!"

Dr. B. speaks of the "Dominique fowl" as a "very perfect breed," adding that he has "never seen the least variation in their appearance for the last thirty years. * * * Why it is that no perfect bloods should have escaped description by poulterers, I am unable to divine."

But suppose the question is asked—what constitutes a Dominique fowl? It may not be easy to give a definite answer; but it will probably be said that the term Dominique applies to fowls of a particular color. It is a fact, however, that the markings of plumage which have given rise to the application of this term, are not confined to one breed, but are found among several breeds. They are very frequently seen among the common fowls, usually called "Dunghills," and have been met with in fowls imported as Dorkings, as well as in the Jersey Blues, &c; so that Dominiques may be said to occur in many breeds, but of themselves are no breed at all.

Dr. B. closes his descriptive list of *thirty-three* varieties of fowls, with the "African Bantam," of which he says—"They are the best of all the Bantam race, yet I have never seen them described in the books on ornithology." No! and he never will, till men who know nothing of "ornithology" make "the books!"

From the space which this article has already occupied, I am induced to pass without notice, Dr. Bennett's vagaries in regard to turkies, geese, ducks, &c., together with those parts of his work relating to the management of poultry, and proceed to an examination of his remarks on "Breeding Fowls," though I shall not attempt a detailed criticism of the chapter.

Dr. B. observes, in the outset, that in the treatment of this subject generally, "there is a loose and indefinite use of terms, which serves only to distract and confuse the inquirer." If I am not mistaken, the readers of Dr. Bennett's book, may with propriety complain of the "loose and indefinite use of terms"—not less in this chapter than in the parts of the work already noticed. For example, he pretends to lay down certain "physiological principles," which, he thinks, if "well understood and faithfully applied, will prove of great value." The first of these principles is as follows:

"When animals differing in order, genus, and species cohabit, no offspring results."

Now what a strange compounding of terms does this proposition comprise! And the sense is so obscure that it is doubtful what idea it was intended to convey. If the meaning is that animals of different orders are incapable of producing an intermediate offspring, it will be admitted; but of what use are the terms genus and species in this connexion? Animals of different orders, must of course be of different genera and species. The effect of this "loose use of terms" therefore, can only be to "distract and confuse the inquirer."

Again, though the proposition be admitted as correct, so far as it relates to orders, it is incorrect in its relation to genera and species; for offspring is sometimes produced between animals of different genera, and not unfrequently between those of different species. Thus Dr. Morton says—"Hybridity occurs not only among different species, but among different genera; and the cross-breeds have been prolific in both cases."* For instance, the Guinea-fowl, which belongs to the genus *Numida*, and the common fowl, genus *Gallus*, have been known to breed together. I have myself seen hybirds which were the result of this union; and Dr. Morton mentions two which he had seen, and refers to three others of which he had heard.†

Dr. Bennett's second proposition is, that with "animals of the same order, differing in genus and species, *the progeny is sterile in the first generation*, as with the mule, the mongrel-goose," &c.

By "mule," it is supposed he means the joint offspring of the horse and ass; but what naturalist regards those animals as "differing in genus?" Or is this only to be received as part of a new classification which the learned Doctor intends to introduce?

Again, Dr. Bennett cites the "mongrel goose" (as if there was only *one* mongrel goose,) as an example of sterility. What is a mongrel? Webster's definition (which is within reach of all) is "an animal of mixed breed." But are all geese which are of "mixed breed," or all "mongrels" sterile? "Looseness of terms," indeed! The Canadian wild goose and the common domestic goose, are of distinct species, and their joint offspring are properly *mules*. They do not breed.

Dr. Bennett's third proposition is, that with "animals of the same order and genus, differing in species or variety, only, the progeny becomes barren, in *the second generation*, as with the mulattoes."

Well, if the "natives" are not astonished at this, the Doctor may give up! The progeny of animals "differing in species *or variety only*, becomes barren in the second generation!" What gloomy philosophy! How soon must vanish from earth those *transcendent* fowls, the "Yankee Games," the "Plymouth Rocks," the "Pride of Indias," &c.,—all crosses of different varieties.

Yet Dr. Bennett, in another part of this chapter, tells us—"The best breeding is to cross or mix the races. This process improves the breeds in every respect. The *best* mixture is the Yankee Game with the Cochin-China fowls. This produces a *race* [?] of equal proportions of Wild Indian Game, Spanish Game, Chittagong, and Shanghae. Such a mixture gives great size, fine flesh and brilliant plumage; and at the same time the *breed*, [not "race" as above] will be very *prolific!*" [p. 202.]

Whether Dr. B. regards whites and negroes as of different species, or only different varieties, does not appear, and I have no occasion to enter on the discussion of the question. His conclusion in respect to mulattoes, I leave to the observation of others without comment.

Dr. B.'s fourth and last proposition has no special connexion with the main subject, and if it had it is of a character which would prevent its insertion here. As before remarked, it is impracticable to notice all the strange things in this boasted "*vade mecum*," and many are passed over. I shall merely call attention to one or two more passages.

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* Silliman's Journal, vol. III, p. 212.

† Ibid. p. 204.

Dr. Bennett attempts to show that in certain cases in-and-in breeding may be practiced "with perfect impunity." These cases are where the breed is pure. Thus, he says,—"if the breed is pure, *as with the rabbit*, you can breed close," &c. Are all rabbits of *one* breed? Or if not, are all rabbits of *pure* breed?

Under the head of "Preserving the Distinctive Breeds," Dr. Bennett presents us with the following paradox:

"When a fowl exhibits any special marks indicative of all the races or breeds from which the cross originated, it is a sure evidence of extraordinary purity of blood, and of the superior excellence of the race." [p. 201.]

Now, if this "loose and indefinite use of terms," does not "distract and confuse the inquirer," it must, at least, excite in his mind both astonishment and disgust! "Special marks indicative of" a *mixture* of "races or breeds," are "sure evidence of extraordinary *purity* of blood!!" If the above paragraph had appeared in the "*Asylum Journal*," among specimens of the composition of insane persons, who would have regarded it as out of place? Or who can say that it is appropriate to any other place?

The work closes with an appendix, which seems chiefly designed to show that some *new light* had been obtained in regard to fowls after the matter had been principally prepared. Thus the Chittagongs, with a description of which the book is commenced, have became the "*Imperial*" Chittagongs in the appendix. The closing paragraph indicates that we have not yet reached the end of this humbuggery and imposition. The credulous public is enjoined to hold fast, like the old woman who fired off the musket containing seven charges, as "there are more to come yet."

"Subsequent editions of this work will be embellished with portraits from life, by the same distinguished artist, F. A. Durivage, Esq., of my *Pride of India* fowl, from my own stock; my *South American Eagle* fowl, (a very rare and singular bird,) from the stock of J. Jacob Bower, Esq., of Baltimore, and now in the possession of Mr. William Nickerson, of Plymouth; the *Java Game Fowl*, from the stock of Mr. George C. Pierce, of Danvers; and numerous other rare and choice breeds, (a full history of *sixty different breeds and varieties* being promised by Mr. Bower alone;) and will contain an additional fund of practical matter from some of the best breeders in this and foreign countries, with whom the author is in correspondence."

With this I leave Dr. Bennett's "Poultry Book," though not because all its ridiculous absurdities and palpable contradictions have been pointed out. The book abounds with those of similar character. If any apology is necessary for the space I have devoted to this extraordinary production, it is to be found in the fact, that people who have no opportunity of knowing, beforehand, the character of the work, are induced to purchase it. If my remarks shall tend to prevent the outlay of money for that which is, in many respects, worse than useless, they will, at least, do the public some service. OBSERVER.

☞ Beware of little expenses, a small leak will sink a great ship.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

French Names of Fruits.

The name "*Fondante d'Automne*" is pronounced at least one hundred thousand times annually in this country, of which at least ninety thousand are bad French, hybrid French, or awkward anglicisms. Very few of our fruit raisers understand French pronunciation; and when they meet with foreign names, they encounter them quite as awkwardly as a Moor would manage a printing press, or a Burman one of McCormick's reapers. The evil of these names, it is true, is not very serious, but they are rendered exceedingly inconvenient by their constant occurrence in use. All, except the few who wish to be modish, desire some way of escaping this continual annoyance.

These names should be modified or altered. Some of them, such as Belle Lucrative, Passe Colmar, Forelle, Crassane and others, the sound of which is somewhat similar in both tongues, will assume a modified English pronunciation, like Jargonelle and Bonchretien. But there are others, not quite so easily passed, such as *Beurre Gris d'Hiver Nouveau, Sucree d'Hoyerswerda, Delices d'Hardenpont*, and *Jalousie d'Fontenay Vendee*. Some of these sorts are likely to become generally cultivated—but the names are really terrific, and cannot possibly be retained. Who shall alter them? No single individual should ever think of setting about coining new names for old fruits. But the case is quite different with a large body of intelligent men. Who would be more competent than the American Pomological Congress? Ought not this body to take up the subject, and propose a revised list at their next session? To make this suggestion a little more distinct, let us take up a few names, and propose how they might be altered, or translated into English, or abridged, leaving for others to amend and enlarge these suggestions:—

For	*Fondante d'Automne,*	we might	say,	*Autumn Melting.*
"	*Paradise d'Automne,*	"	"	*Autumn Paradise.*
"	*Beurre Gris d'Hiver Nouveau,*		"	*Grey Winter Beurre.*
"	*Beurre d'Aremberg,*	"	"	*Aremberg.*
"	*Bonchretien Fondante,*	"	"	*Melting Bonchretien.*
"	*Duchesse d'Angouleme,*	"	"	*Angouleme.*
"	*Beurre Diel,*	"	"	*Diel.*
"	*Glout Morceau,*	"	"	*Morceau.*

We shall leave the name *Louise Bonne of Jersey*, for some one of greater ingenuity to re-model.

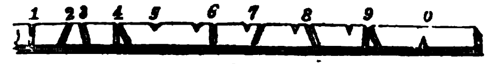
In many instances, the simple translation of the foreign name might be at once adopted, as for

Doyenne d'Ete,	say	*Summer Doyenne*
Rambour d'Ete,	"	*Summer Rambo.*
Muscat Petit,	"	*Little Musk.*
Rousselet Hatif,	"	*Early Rousselet.*
Franc Real d'Ete,	"	*Summer Franc Real.*
Bergamotte Suisse	"	*Swiss Bergamot.*
Pourpree Hative,	"	*Early Purple*
Violette Hative,	"	*Early Violet.*

Labels—Timely Hint.

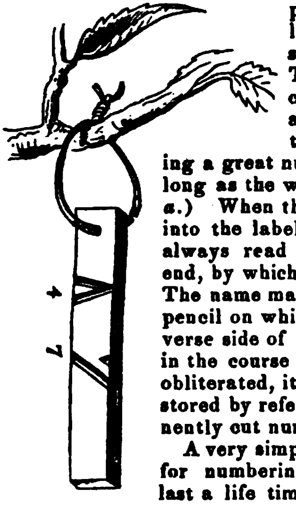
"A nurseryman," says S. W. Cole, "lost $500 by budding from a falsely marked tree before it bore." Another nurseryman sold several hundred trees of the Black Mazzard for the Napoleon Bigarreau, by a similar mistake in marking one for the other. Thousands of trees were set out last spring, by purchasers all over the country, and the labels are neglected and are becoming lost. Now a great deal of the present confusion in the nomenclature of fruits originated in this way. Nothing was thought of the names till the trees began to bear. Curiosity was then excited, conjecture was substitated for knowledge, and innumerable mistakes were made and multiplied.

Where trees have been set out in rows, it is very easy to register the names one by one in each successive row, in a book kept for that purpose, which may be referred to at any moment for fifty years to come? This, therefore, is the first thing to be done, and should not be neglected another day by any one who abhors confusion.

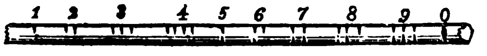


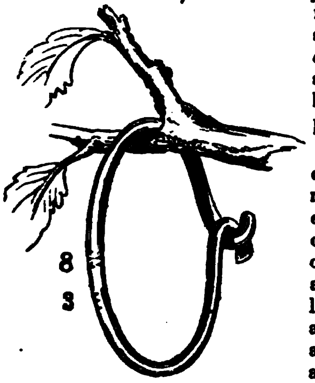
a.

To indicate the number of each tree, and save the trouble of counting the row, wood labels may be suspended to a side branch by means of a strong copper wire, made in a large loop so as not soon to cut the bark. The numbers may be cut into the labels with a knife, by following the above marks, lasting a great number of years, or as long as the wood remains. (Fig. a.) When these numbers are cut into the label (Fig. b.) they are always read from the suspended end, by which no mistake is made. The name may be written with a pencil on white paint, on the reverse side of this label, and when in the course of years it becomes obliterated, it may be at once restored by referring to the permanently cut numbers.

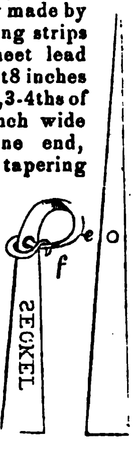


A very simple and original label for numbering trees, which will last a life time, is made of large copper wire, with the numbers marked with a three-cornered file, as shown by fig. c. The wire is twisted round a side limb as in Fig. d. These labels are made and marked with great rapidity.





Durable labels, containing the full name, are conveniently made by cutting strips of sheet lead about 8 inches long, 3-4ths of an inch wide at one end, and tapering to a point at the other. A hole is punched through at the middle, and the smaller end is brought round the branch, and secured by drawing it through the hole and giving it a twist. Fig. e. f. The letters are to be previously stamped into the lead by printer's type. Sheet tin may be used instead of lead, using a sharp awl to write the name by cutting through the tin coating, oxidation soon rendering the letters distinct.



Early Notices of the Curculio.

The Curculio is a native of the United States, and I believe not known on the Eastern Continent. I have turned to the great "NATURAL HISTORY OF NEW-YORK," but find nothing on Entomology, and presume that this important field has not been explored under the patronage of the State. How far this destructive insect has been found to the east, west, north, and south,—would be an interesting inquiry; and I would feel thankful to any of your correspondents for contributing such information *in regard to its limits*, as they may happen to possess.

In Darlington's "*Memorial of John Bartram*," lately published, I find the following notice from Peter Collinson of London, dated "March 14, 1736-7," in which he refers to J. B.'s "very particular account how your plums are destroyed by an insect. Pray change the stock, and graft plums and nectarines on peach stocks, which being a vigorous, free stock, and not liable to these insects, may succeed better. Pray try; I have a great opinion of its succeeding."

A project evidently so ineffective, led me at first to doubt whether the Curculio was the insect referred to; but letters of a later date, clearly settle this question.

J. Bartram ("April 16, 1746,") speaks of the sloe, "which we have had in the country these fifty years. I plant them about my hedges, where it grows to a large size. The blossoms are prodigious full, but never one ripe fruit. They were bit with the insect, as all our stone fruit is, but the peaches; and some kinds of cherries overgrow them."

It would appear from what follows that the proposed remedy was not very cordially received by the American Botanist,—for in reply to some remarks which are now probably lost, P. Collinson says, (April 24, 1746,")

"Though thou canst not see, yet I have told thee what inoculating on a peach stock may do. If I am not out in my conjecture—as it is a free stock, and sends up its sap plentifully, it may assist the nectarine and apricot at a season when supplies are wanting. As thou has tried the north side of buildings, and sides of water courses, &c., to no purpose with plums, pray give the other fruits as fair a chance.

"To prevent the depredations of the Beetle, I confess, is not so easy as some other bad effects; yet as we know the duration of this insect is but short, if while he is so noxious, some contrivance could be found out to disturb or destroy him, you then might hope to taste a nectarine,—one of the most delicious fruits in the universe, and much exceeds a peach, in a rich vinous-flavored juice. And an apricot is also one of the fine fruits. Last year, our standards were overloaded, which were allowed to excel the wall fruit.

"Suppose as soon as this beetle is discovered, if the trees were to be smoked, with burning straw under them, or at some distance, so as to fumigate their branches at a time the beetles are most liable to attack the fruit; or if the trees were to be squirted on by a hand engine, with water in which tobacco leaves were soaked; either of these two methods, I should think, if they did not totally prevent, yet at least would secure so much of these fine fruits as would be worth the labor of people of circumstances, who are curious to taste these delidelicious fruits in perfection.

"I take it, the reason the plum succeeds so well, is the frequent shaking the trees, by being planted in a frequented place. The beetles are tumbled off, or else are disturbed, and frightened from settling on the trees."

In a paper read before the Philadelphia Society for Promoting Agriculture, in the summer of 1789, William Bartram particularly and scientifically described the curculio; and adds "Many methods have been thought of and practiced to remedy the evil, but *none have as yet been attended with success.*"

"During my travels southward (from Pennsylvania to Florida) I had sufficient opportunities to observe that the fruit trees on the sea coast and brackish water, were free from the ravages of this destructive insect; this suggested to me an idea that the saline vapors were pernicious to them, and hence I imagined that if we were to go to the trifling expense of showering our choicest fruit trees with a weak solution of common sea salt, once or twice a week, it might answer the same end of preserving the fruit. But this is only a conjecture, having never made the experiment."

In 1808, W. Bartram furnished the following: "The spring following, I put the experiment of showering a plum tree on trial, with a weak solution of sea salt dissolved in water; but being too strong of salt, most of the leaves and fruit fell off in consequence of it, otherwise the experiment might have produced the desired effect, as what fruit remained were not touched by the insect, though small and disfigured by the strength of the brine; yet a few arrived to their natural size and ripened, so that I am induced to believe that with care in tempering the solution, it will be found to be the best and cheapest remedy against the ravages and increase of those pernicious insects yet discovered. It should be *so weak as just to taste of salt.*"

Dr. Tilton, who wrote about the beginning of this century, says—"There is no surer protection against the Curculio than *a pavement*. This however is only applicable to a few trees."

It was believed both by William Bartram and Dr. Tilton that the Curculio infested the pear and apple, as well as stone fruit; and that it continued its work through the summer into autumn. It appears however that this notion is unfounded. In 1831, the late Judge Darling of New Haven, Ct., stated in the the New-York Farmer, that this insect ceased from its labors early in the 7th month; and that the worm which infests the apple becomes a moth or miller. On reading this statement, I repeated his experiment without delay, by putting these worms with a part of the apple, among moist earth in a tumbler, and covered it with a piece of window glass. In due time, the *perfect* insect came forth, very different indeed from the Curculio, and fully confirming Judge Darling's statement. D. Thomas. *Great-field, Cayuga co., 6 mo. 29, 1850.*

Notes on New Cherries.

Boyer's Early Heart.—This has been supposed by some to be identical with the Early White Heart. But from careful and repeated examination the present year, there are evidently several points of difference. Boyer's Early Heart is earlier, but it may not prove always so; it is larger, superior in flavor, and its stone is smaller.

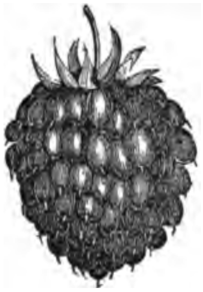
Sweedish.—This variety, from Dr. Kirtland of Cleveland, has fruited for several successive years. It is regarded by F. R. Elliott (in the Proceedings of the Syracuse Fruit Convention,) as identical with the Early White Heart. There is evidently a great similarity in flavor, and the period of ripening is about the same; but the strikingly *rugose* or wrinkled surface of the Sweedish, distinguishes it from all other sorts of its season.

The Early Purple Guigne, so far, maintains its position as the best of the earliest cherries. It ripens with the May Bigarreau, two weeks earlier than the Black Tartarian. It is about the size of the Black Heart, or one half larger than the May Bigarreau, and is far superior to the latter in flavor.

Dr. Kirtland's New Seedling.—Several of these have borne in Western New-York, and most of them maintain the high character given to them by F. R. Elliott of Cleveland, who introduced them. After another year's trial, we may safely speak of them more particularly.

Red Antwerp Raspberry.

This variety of the Raspberry, (the genuine, large fruited,) in common with most other sorts, succeeds to perfection on strong, deep, and rich soils. On light gravelly or sandy soils, we have rarely obtained good crops. Under the most favorable circumstances, it becomes a profuse bearer. It has been cultivated with great success at Milton, in Ulster county, N. Y. S. A. Barratt, of that place, made the following statement before the American Pomological Congress, which was corroborated by others present:—



Red Antwerp.

"In productiveness, it was unsurpassed by any. It bore long in succession, and in ordinary seasons could be gathered for five weeks. As a market fruit, it was better than any other variety, bearing carriage very well, and not being exceeded by any in flavor. It sold in New-York for about twenty-two cents a quart, and from three-quarters of an acre he had realised $330, at an average of ten cents per basket. There was a cultivator in his neighborhood who obtained $1500 worth from three acres, and that, in a very unfavorable season of only three weeks instead of five. To insure a crop, it required to be protected during the winter by drawing down the ends, and covering them with earth. About three acres would afford as many raspberries as could well be cared for. He had known the ends to live in severe winters, although uncovered, but that was in very favorable situations."

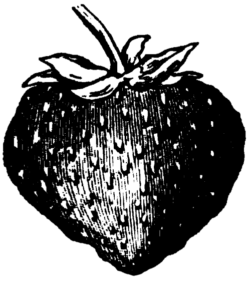
Strawberries.

In answer to an inquiry, "Can strawberries be profitably set out after the present period of the year, and what are the best varieties for market as well as home use," we may briefly state that the spring of the year is decidedly the best time for transplanting, and next, soon after midsummer, or about the time that the second growth commences, when the crop has been gathered. Strict care must, however, be taken at the latter period, to prevent perishing by drouth. Watering, merely, will not answer. The best way is to immerse the roots in thick mud, set them out, water them freely to settle the earth compactly, and then to cover the soil about them two or three inches thick with old manure. This keeps the soil open and moist. A free watering once or twice afterwards upon this manure, as the soil on examination appears to need it, will benefit the plants, and not harden or crack the surface. This method has succeeded perfectly in the driest part of midsummer without the loss of a single plant. Strawberries set out after the first of autumn, are liable to be thrown out by winter frost.

South and west, the best variety perhaps, for market, is the Cincinnati Hudson. It flourishes and bears profusely with very moderate care. In N. England it does not flourish quite so well. Hovey's Seedling makes the finest show after it has been picked, but is not sufficiently productive under ordinary treatment. The sort most generally preferred for its delicious quality, and not even excepting Swainstone's Seedling, is Burr's New Pine. It is rather large, quite productive, but too delicate in texture to carry to market. The Large Early Scarlet is the best very early sort, and the Dundee a fine late variety. Boston Pine *if kept in hills*, is large, fine in quality, and very productive. Black Prince is a fine, mild flavored sort, large and tolerably productive.

Disagreement of Doctors.

There are some fruits whose qualities meet with almost universal approval, while there are others about which there is a most singular diversity of opinion. One of the most striking instances of the latter, is furnished by the discussions on the *Black Prince* strawberry, as reported in the Proceedings of the Second Congress of Fruit Growers:



Black Prince.

"Mr. Saul proposed to add to the list of strawberries the *Black Prince*. He had known it for ten years, and esteemed it the highest flavored of all. It was a very good bearer, remarkably hardy and endured the the winter much better than most other varieties. It had as many desirable qualities as any he knew of.

"Mr. Downing had great pleasure in bearing testimony to the good qualities of this strawberry. He preferred its flavor to that of any other variety. It was, as Mr. Saul had said, a hardy and an excellent bearer, and the berries were large and handsome. He could safely recommend it.

"Mr. Lines had procured it on Mr. Downing's recommendation, and, like him, had found it an abundant bearer, with a handsome berry; but it was the most insipid fruit he ever tasted. He was surprised that so handsome a berry should be so tasteless. The fruit would hardly bear gathering, it melted so easily in the fingers.

"Col. Hodge had fruited it for three or four years. Its flavor was not so good and the crop not so abundant with him as other gentlemen seemed to have found them.

"Mr. Hamilton said that with him it was one of the very best, and certainly had the highest flavor of any.

"Mr. Manice had it from Mr. Downing, and found it the poorest strawberry he had ever cultivated.

"Mr. Miller considered it at the head of all in point of flavor.

"Mr. Battey, of Keeseville, N. Y., had been much disappointed in the quality of this fruit. It was worthless, dry and insipid, and with him the plant was a poor bearer.

"Mr. S. B. Parsons last year thought it first rate, but this year it was poor with him.

"Mr. Barry said it was a beautiful colored berry, and one of the highest flavor, but it was a small bearer. For amateurs it was an indispensable variety, but it would not do as a market fruit.

"Mr. C. Downing regarded it as the highest flavored strawberry he ever tasted, and one of the best varieties. He grew it on a light, sandy loam.

Mr. Hancock had tried it four or five years, but it had never succeeded with him."

The truth appears to be that this variety is liable to be more affected by soil and treatment than many other sorts; and the flavor, being very mild, and the fruit exceedingly delicate, unless these qualities are well developed, the fruit becomes by a single step, at once insipid. Besides this, many persons greatly prefer a rich acid to a mild delicate fruit, and hence under any circumstances, would not admire the Black Prince.

Unfavorable Localities of Fruits.

S. W. Cole, of the *N. E. Farmer*, makes the following objections to a part of the select list of fruits adopted by the American Pomological Congress, so far as they have been tried in parts of New England.

Early Harvest—Slow grower, poor bearer, fruit liable to crack and blast.

American Summer Pearmain—Very liable to blast.

Early Strawberry—Too small for market—sometimes affected with blight.

Fall Pippin—Very liable to blast—far less profitable than some others.

Fameuse—Does not succeed well in warm locations—not of high quality—beauty its greatest excellence.

Winesap—Too small for market—better for cider and cooking than for the table.

Lady Apple—Very small, very beautiful, tolerably good, often imperfect.

Wine Apple of Coxe—Tolerably good, but others better for the same season.

Vandevere—Hardly known in New-England—believed to be liable to blast and bitter rot.

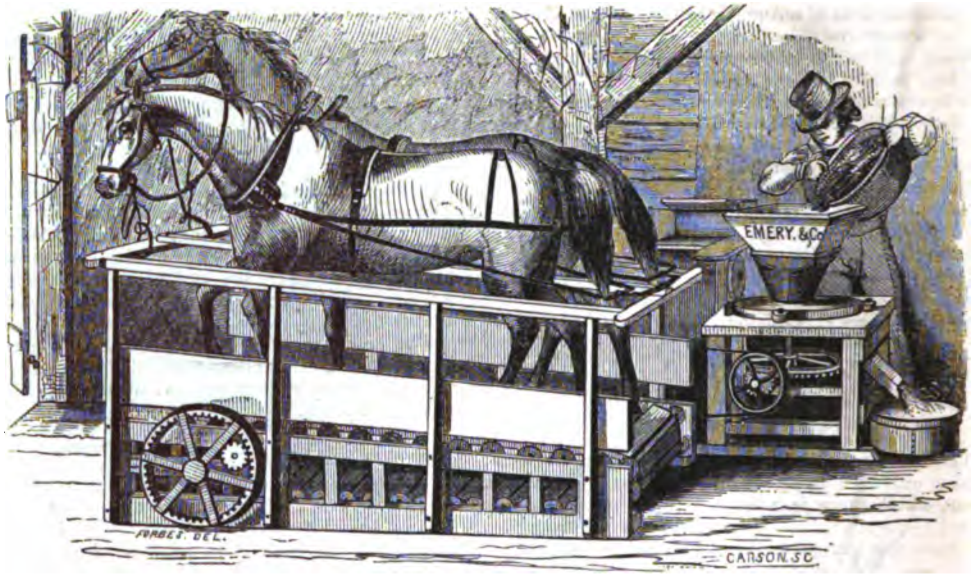
Swaar—Fine in New-York, but in N. England light and corky at core.

St. Ghislain Pear.

The editor of the N. E. Farmer, states that the "finest looking" fruit he ever saw of this variety, was grown on a stock of English White thorn, and trained on a building. This pear, usually quite small, was thus grown large enough to sell well in market. It is well known to be a sort greatly affected in size and quality by the culture it gets, and this mode of doubling its magnitude is doubtless worthy of trial.

Peeling the bark of the Cherry.

George Jaques, of Worcester, Mass., in a letter dated June 10, 1850, gives the following results of experiments on cherry trees. "Some experiments in peeling the *outer* bark of the cherry have succeeded with me admirably. The change from smooth bark to rough bark, is a crisis in the life of a tree seemingly almost as perilous as that through which some of the animated creation are compelled to pass—in their change from youth to adult age. This disbarking process suits the wants of the cherry, and also of the pear, *so far* as I have extended my experiments; but I am not yet prepared to speak positively, till further experiments are matured."



NEW RAILROAD HORSE POWER AND FEED MILL.

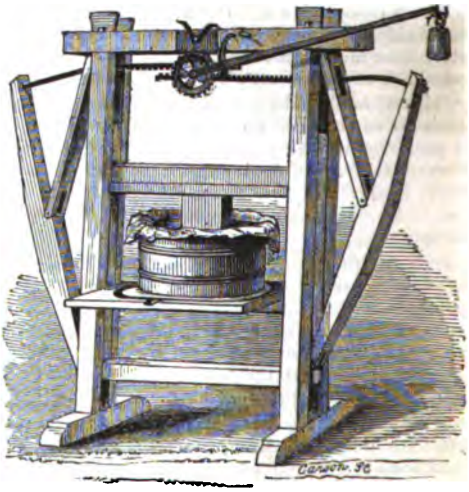
The above cut represents a new Horse Power, recently brought into notice by Messrs. Emery & Co., of the Albany Agricultural Works. It is on the general plan of the approved endless chain powers sold by them for several years past. The principal difference is in the manner of obtaining and applying the power and motion from the revolving platform to the shaft of the driving pulley.

This Power, as will be readily seen in the cut, has the revolving plank platform, traversing upon its own friction wheels and iron Railroad Track. At the forward end, this platform is supported by its small shafts upon an iron reel, about sixteen inches in diameter—the shaft of this reel extending beyond the sides of the frame work sufficiently to receive a strong converge or internal gear, about twenty-four inches in diameter, as seen in the cut.

The shaft of the driving pulley, (which pulley is three feet in diameter,) is hung in like manner, with the small gear upon one end, operating inside the converge gear before described, and consequently receives an increased motion in the same direction, and carries the driving pulley on the opposite side of the power for driving the Overshot Thresher, without crossing of bands or intermediate gearing. The converge wheel is so arranged as to work on either side of the power, as may be desirable.

This arrangement entirely removes all liability of breakage and wear of links and pinions (heretofore unavoidable,) as the direct stress upon the links working over small pinions is wholly avoided; and they are acknowledged by those using them to run with lighter friction, which it is said enables the power to be operated at a less elevation than by the former mode. The arrangement for tightening the endless platform by means of a joint bolt connecting with the bearings of the reel shaft, is new, and is a very simple and effectual mode of effecting this object, as it may be instantly done by a common wrench without stopping the machine. The platform is considerably longer than usual, avoiding the liability of large or unsteady horses stepping over or off at either end.

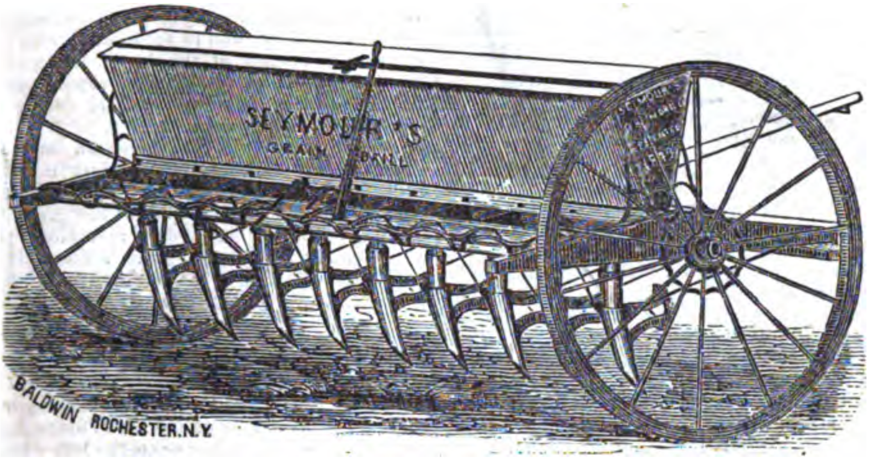
The above cut also represents a valuable mill, capable of being driven with this power to good advantage, for grinding food for stock. A considerable number have been sold for several years past, and answer a good purpose. They are cheap, costing but $35, with one extra set of grinding plates,—(new plates costing $2 per set.) and are capable of grinding 600 to 800 bushels per sett, according to the fineness to which it is ground. These are also made and sold by Emery & Co.



Kendall's Cheese-Press.

Patented July 15, 1843.

The above cut represents an approved cheese press for which the New-York State Ag. Society awarded the first premium in 1848, and is, we learn, generally used in the counties of Herkimer, Oneida, &c., in this state. Its construction is a combination of levers working together, and so arranged as to give any desired amount of pressure. A suspended weight of twenty pounds, being sufficient to give a pressure of ten tons. They can be had of Emery & Co., of the Albany Agricultural Warehouse. Price $15.



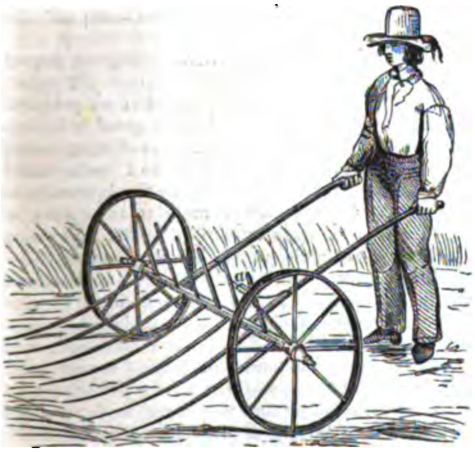
SEYMOUR'S GRAIN DRILL.

THIS machine is manufactured by P. SEYMOUR, of East Bloomfield, Ontario county, N. Y. It received a premium at the State Fair at Syracuse, as the best grain drill capable of depositing fine manures with the seed. It sows wheat, oats, barley, corn, beans, peas, &c., and is also capable of sowing with the seed plaster, lime and ashes. It can be changed in a few minutes from a drill to a broadcast sower. We have heard this machine recommended by persons who have used it The price, with nine teeth, is $80; with seven teeth, $70; garden drill $50. For further particulars, see advertisement.

The accompanying cuts represent the appearance of wheat sown both by the drill and broadcast, at the time of ripening. It will be noticed that the height of that sown broadcast is very uneven, while the upright position of many of the heads, indicates that they are light, not being well filled. We have before expressed the opinion that the introduction of the drill system would be an important desideratum.

Wheat sown Broadcast.

Wheat sown with a Drill.



Grain Binders' Wheel Rake.

The above cut represents a labor and time saving implement, used extensively in several states where it has been introduced. It is light, weighing about fifteen pounds. As represented in the engraving, the binder takes the handles and pushes it before him, with the points of the teeth or fingers close upon the ground, and when he has gathered on the fingers a sufficient quantity for binding into a sheaf, he places his foot upon the foot piece, (*a*.) and by a slight pressure, and by letting go the handles, the fingers and grain are raised above the stubble, when it is readily bound, the binder being required to stoop much less than in the old way of reaching to the ground. When the sheaf is bound and thrown aside, the foot is removed from the foot-piece, (*a*.) the teeth drop down, and the handles rise ready for the next operation. The wheels are about eighteen inches high, and it is easily pushed before the binder. The width between the wheels is sufficient foı the longest grain. It is for sale at Emery & Co.'s Warehouse. Price from 3 to 4 dollars.

NUMBER OF GRAINS IN A BUSHEL OF WHEAT.—A writer in the *North British Agriculturist* states that the number of grains in a bushel of wheat weighing 62 lbs. is upwards of 630,000.

SOWING WHEAT IN DRILLS.—A Scotch farmer estimates the increase of crop from sowing wheat in drills, instead of broad-cast, at an average of one-fourth to one-third.

☞ He who falls in love with himself will find no rivals.

New-York State Agricultural Society.

New-York State Fair.

The grounds belonging to the Bull's Head tavern, on the Albany and Troy road, have been selected for the next fair. The necessary fixtures and arrangements, which are on a convenient and extensive scale, will be completed in due season, and we have every reason to anticipate an exhibition which will in all respects vie with any previously made by the society. It will commence on Tuesday the 3d of September, and close on Friday the 6th. All exhibitors are required to have their articles or animals entered on the Secretary's books, on or before the first day mentioned, and all articles and animals, except horses, must be brought within the enclosure as early as 12 o'clock on that day. Hay, litter and water for stock will be furnished on the ground without charge. Exhibitors must become members of the society, for which a fee of one dollar will be required. The *second day* will be devoted to examinations by the awarding committees, but the grounds will not be opened, except to members of the society, till the *third day*, September 5th, at which time tickets admitting one person will be sold at the Treasurer's office, on the grounds, at 12½ cts. each.

Particulars in regard to all the regulations, may be learned from the pamphlets comprising the premium list, &c., which may be had gratis on application to the Secretary, B. P. Johnson, Esq. Albany.

Liberal premiums are offered for horses, cattle and sheep from without the state, and the premiums for agricultural implements, machinery, experiments, essays, &c., are open to unlimited competition.

The annual address will be delivered under the Society's tent on the grounds on Friday afternoon. Evening meetings will be held during the fair, for the discussion of agricultural subjects.

At the meeting of the Executive Committee, July 11th, it was on motion of Judge Van Bergen,

Resolved, That an invitation be extended to the Members of Congress, to attend the Fair of the Society to be held in Sept. next.

On motion of Mr. Tucker,

Resolved, That hereafter, the *name of the person* entering stock or articles for exhibition, as well as the No. of the entry, be inserted on the cards to be placed upon the animals or articles offered for competition

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The following correspondence between the President of the Society, and the late President of the United States, was read. At the time these letters were written, hopes were entertained that our late Chief Magistrate would be present at the coming exhibition; but these hopes have been destroyed by the afflictive dispensation which has clad the nation in mourning.

Mount Hope, Albany, May 18, 1850.

His Excellency, Z. Taylor, *President U. S.*

Sir—The New-York State Agricultural Society was greatly disappointed that the state of your Excellency's health did not allow you to become its guest at Syracuse last autumn. The Society and Farmers of New-York, however, flattering themselves that their disappointment was attributable only to temporary indisposition, had hoped that the welcome they had prepared for their Chief Magistrate was only postponed—not lost.

Acting as their organ, as the presiding officer of the State Society, and in accordance with an unanimous vote passed at the last meeting of its Ex. Board, I have now the honor of repeating the invitation for their show, to be held during the first week in September next.

You sir, have taken too deep an interest in the great objects to which the Society is devoted, to make it necessary for me to say more than to assure your Excellency, that no part of this great Republic could give you a more cordial reception, than will await you at this Great Farmer's Festival.

I am, sir, with great respect, &c.

E. P. PRENTICE, *Pres't. St. Ag. Soc.*

Washington, July 5, 1850.

E. P. Prentice, Esq. *Albany, N. Y.:*

Sir:—I have duly received your favors of May 18th and June 25th, the former wishing me to attend the Annual Fair of the N. Y. State Agricultural Society in September next, the latter kindly asking my company at your house on that occasion.

In the extreme uncertainty attending the adjournment of Congress, until which event I cannot leave the seat of Government, I find it quite impossible to give any assurances in regard to my presence at the State Fair. I was greatly disappointed when circumstances prevented my attendance at the Fair of last year, and it is my hope this season to have the gratification of witnessing a similar exhibition. Unless prevented by an extraordinary prolongation of the session of Congress, or by other circumstances, not now foreseen, I shall certainly comply with the invitation which you have extended me, as President of the Agricultural Society.

I fear, however, that I shall be obliged to decline your very kind request, that I should make your house my home during my attendance at the Fair. It will hardly be in my power to accept any private invitations, but should I do so, that of Gov. Fish, which I some time since received, would have the strongest claim upon my attention.

With many thanks for your hospitable offer, I remain, very truly, yours. Z. TAYLOR.

Subsequently to the receipt of the above letter from Gen. Taylor, the melancholy tidings of his death, have been announced, and in reference to this event, the Executive Committee adopted the following resolutions:

Resolved, That we have heard with sincere regret of the decease of his Excellency, Zachary Taylor, President of the United States, and that we participate with our fellow citizens in the grief which is felt at the sudden loss of one who was distinguished in the various stations to which he had been called by a firm self-sacrificing devotion to the interests of his country, and whose attachment to the cause of agriculture is so warmly expressed in the foregoing letter, the last we understand, he ever wrote.

Resolved, That, on behalf of the society we represent, we tender to his afflicted family, our most heartfelt sympathies at this melancholy bereavement, trusting that He who has afflicted, will sustain and support them under this most severe trial.

Resolved, That a copy of the above proceedings, signed by the President and Secretary, be forwarded to the widow and family of President Taylor.

Musical Exhibition during the Fair.—We learn that the Harmonia Society of this city propose to perform, during several days of the State Fair, Haydn's celebrated ' Oratorio of the Seasons." The best musical talent in the country has already been engaged for the occasion.

The Farmer's Note-Book.

Seed Wheat that will not "turn to Chess."

EDS. CULTIVATOR—As the time for sowing wheat is at hand, and *perfectly clean seed* is admitted by all to be very desirable, I deem it seasonable to state some facts and observations, and on them to predicate some advice for the attainment of that desideratum. I must premise, however, that early in life I embraced as a Scriptural truth, the notion that "what a man soweth that shall he also reap." My father was an old-fashioned orthodox farmer, who believed and taught that this parable was based on an ordinance of Heaven, and was a *real fact*, and literally true with respect to grain, and his works were in accordance with *his* faith. He therefore took uncommon pains to obtain pure seed. In consequence, he was never troubled with chess, while his neighbors who believed that "wheat will turn to chess," and therefore "it is of no use of being so particular," about the seed, acted in accordance with *their* faith, and were, (unavoidably, as they supposed,) much annoyed with chess.

In the fall of 1841, I was compelled to plow a field of oat stubble that had been seeded down, but had failed in consequence of severe drouth. I sowed it with rye, except about an acre near the barn, which I concluded to try wheat. I was told a neighbor was threshing all his wheat for seed, on account of its being perfectly clean. Two bushels of it was obtained at a price much above the market, on account of its being, (as he, in all sincerity expressed it,) "*perfectly clean—nothing but wheat.*" On examination, however, smut, cockle, and chess were discovered to such an amount as to warrant an attempt at purification before sowing. Over five quarts of smut, cockle and chess was first picked and sifted out; a large wash tub full of strong brine was then made, and the wheat, (about a peck at a time,) stirred in, which brought to the surface the rest of the smut and chess, which were skimmed off; but a few grains of cockle and rye remained inseparable in the wheat. The wheat was then scooped out on a floor to drain off, and about a peck of slacked lime mixed with it, by repeatedly scooping it over, so as to coat the surface of the grains with the lime. I omitted to state that on measuring the wheat *after* the purifying process, it had lost by that operation, in *smut, chess, cockle, shrunk wheat*, and other extraneous matters, nearly a peck, or one-eighth, a fair sample, I presume, of most of the "clean wheat" that is sowed and turns to chess.

It was sowed on the 8th of September, and with favorable weather attained such a growth that I turned several calves on it to eat it down. An old friend, a farmer of great experience, visited me at the time the calves were on it, and gave a lecture on "wheat turning to chess," declaring that there was nothing so certain to produce that result, as calves feeding on it; "never knew it to fail," and seeing my apparent indifference to his admonitions, he expressed, with much sympathy, his regret for the loss he was sure I would sustain, as the penalty for my rashness in having such a "beautiful piece of wheat all turned into chess."

The wheat wintered well, excepting a patch near the barn, from which the snow had been drifted, and where it had been fed down by the fowls so close that nothing was to be seen of it, but with warm weather, *it* too became green, but it was doubtful whether it was wheat or grass. When the wheat headed out, it looked so promising that I had the vanity to think of competition at the County Fair. To this end I requested a surveyor, who is also one of our best farmers, to call and measure the ground. He observed the part fed off by the fowls, had not yet headed out, and inquired into the cause, and when told, he too remarked, "*it will probably be all chess*," and proposed to leave it out of the measurement on that account. Here was another *almost certain* cause of transmutation, and moreover another—the alternate freezing and thawing during its exposure through the winter and spring. At last the heads appeared, and although thrice doomed to be chess, it turned out to be all wheat, but too late to mature the grain. The crop was harvested while the grain was soft. The yield was about 28 bushels, weighing 62¼ lbs. to the bushel—and took the first premium at the Rensselaer County Fair in 1842. The rye and cockle were pulled before ripening, and it was so free from chess and smut that the whole was sold for seed at 25 cents above the market price—except six bushels which I sowed myself, and the product of which was about 35 bushels to the acre, equally good and clean, and took the second premium in 1843. The whole of this, too, was sold for seed at 18¾ cents above the market price, and *warranted not to "turn to chess"* if sown on clean land, and I never heard any complaint of its doing so.

Another neighbor who had a naked fallow in 1841, on virgin soil, prepared with uncommon care, having dug out all the stumps at great expense, also sowed 12 bushels of the "perfectly clean, nothing but wheat" seed, without any preparation, and although it grew very stout and ripened well, it was so fowl as to be scarcely merchantable.

It is also a fact of very general observation, that in this region wheat grown for a succession of years on the same soil diminishes in product and becomes more foul, or as it is usually expressed, becomes more and more liable to "turn to chess." The rationale is this; the soil becomes after every wheat crop less genial to the growth of the same grain, and in proportion as it does so, it favours the growth of chess—so that the latter will, in a succession of years, supplant the wheat.

From the foregoing facts and observations, the conclusion is,

1st—That what is *generally* called perfectly clean seed, does, in fact, contain chess and other foul seed.

2nd—That any condition of the soil or season which is unfavorable to the wheat crop, favours the growth and productiveness of chess, and therefore it supplants the wheat.

3d—That in proportion as the soil contains the elements which constitute a "wheat soil," and it is free from chess and other foul seed, as well as the wheat that is sown, in that same proportion will the crop be free from chess and other foul seeds.

4th—That *perfectly clean seed* is a desideratum, to be obtained *only* by the following method:

Glean a wheat field by hand, picking up each ear separately. Thresh the gleanings upon a floor where no other grain is threshed, or still better rub them out by hand; sow the grain on a clean fallow or clean sod, without manure, unless it be lime or ashes, and the product will be *pure wheat*. If this process is thought to be "too particular," the *sifting, picking, brining and liming* process above described may be substituted with considerable hope of success, if it be faithfully executed. But the gleaning is the most certain; a man or a boy will easily glean a peck in half a day, which if sown on good wheat soil will produce 5 bushels, which again sown will, two years hence, produce 100 bushels; a quantity sufficient to sow 50 acres; and no farmer having a good wheat soil and 100 bushels perfectly clean wheat, could be in better business than to propagate it exclusively for seed. All that is essential to success, is to sow clean seed on a clean wheat soil. The preparation of the soil is generally well understood in the wheat-growing districts of our country, but it may perhaps not be known or not thought to be necessary, that to keep wheat intended for seed *free* from all foreign admixture, a separate barn and granary should be appropriated exclusively to its reception, in which it should be threshed with the flail and stored till sold.

For the encouragement of such an enterprise I will state the results of my experience in dollars and cents.

Sifting, picking, brining and liming 2 bush. wheat, ½ day at 8s.	50
Salt and lime, say	10
	60
Extra price of 28 bushels wheat, at 2s. per bushel	$7,00
Deduct	60
	6,40

For half a days work merely in the improvement of the quality of the grain, aside from the probable increase in quantity, to say nothing of the premium of $6. But this is not all. From the six bushels of this crop sown in 1842, 92 bushels equally good was produced and sold for seed at an advance of 18¾ cents per pushel, at wholesale, to a seedsman.

Thus 92 bushels at 1s6d. per bushel is	$17,25
No sifting or picking being necessary, but only brining and liming, ½ day	25
Salt and Lime say	25
	50

Leaving a balance of $16,75, in favor of improved quality to say nothing of increased quantity and premium. I will add that the wheat was the bearded, red chaff, and that of several kinds that I have grown, I give it the preference. A. D. S. *Troy, July 16th*, 1850.

Mr. Sheafe's Sale of Short-Horns.

This will positively take place at New Hamburg, on Thursday, the 29th day of August, as advertised at page 288. The stock will be arranged according to their number in the Catalogue the day before the sale, and on sales day. Thus every one will be able to examine them to entire satisfaction. When the sale commences an ample ring will be staked out and roped. Into this circle each animal will be brought when it is put up for sale, and walked around for inspection. As all persons will be kept outside of the ropes, this again will give every one present an opportunity of close examination. If there be any unsoundness or vice in any animal on sales day, the public will be informed of it. It is my intention that every thing be conducted in the most honorable manner; and in doing this, I am happy to add, I shall only be carrying out the express wishes of the owner of the herd.

New Hamburg is on the east side of the Hudson river, eight miles above Newburg, and about the same distance below Poughkeepsie. It can be reached by rail road from opposite the former place, or directly from the latter in fifteen minutes. It is only two to three hours distant from New York by rail road, and four to five hours from Albany by steamboat and rail road. Several trips per day are made to each place, at the low rates of eighty-five cents, to one dollar.

Conditions.—In order to save time in bidding, and ensure despatch, the cows and heifers will be put up at a price varying from $25 to $100 each, dependent upon the animal. If bid off at the price named when put up, or any thing above, it will then be the property of the person bidding, otherwise it will be considered still the property of Mr. Sheafe. The bull calves will be put up at $25 each, and Exeter at $300. The sheep and lambs will be put up at $5, $6, and $7 per head, as above. The swine at $5 to $10 per head, according to age. The working oxen at $100.

After an animal is bid off, it will then be considered at the risk of the owner; but it can remain on the farm free of expense, one week.

Terms.—For all sums amounting to one hundred dollars and upwards, approved endorsed notes will be taken at six months, or a discount of five per cent. for cash.

Catalogues with full description and pedigree of each animal, can be had on application to A. B. Allen, 189 Water street, New York.

Repairing Sythe-Snaths.

Eds. Cultivator—In preparing for haying I was reminded of what I intended to do some time ago—and if this is published in your August number it may not be too late to benefit some of your numerous subscribers.

I refer to repairing sythe-snaths in a way which I have practiced for many years. When the craw-hole (socket to receive the sythe) fails, which is very common, I flat the end of the snath about six inches from the end, and get a blacksmith to fit an iron to it about one-eighth of an inch thick, with a hole punched in it suitable for the craw of the sythe, which plate is firmly secured or riveted on, so as not to alter the hanging of the sythe, which makes the snath far more durable than when new. I find on examining my snaths, that I have none but what have been repaired in this way, and that I have saved the expense of buying any for several years. Daniel S. Curtis. *Canaan Centre, July 11th*, 1850.

Mode of Unloading Hay.

Eds. Cultivator—I send you an account of the manner in which I unload my hay, thinking that a slight description might be of benefit to some of your numerous readers; as it saves nearly all the expense and fatigue of pitching off in the usual way, and the apparatus costs only fifteen dollars—a sum which is more than saved in unloading forty tons of hay.

The improvement over the old method consists in removing one half of the load at a time, in one entire body, from the wagon to the mow, by means of a windlass; thereby saving all the labor and exertion which is at present spent in separating the forkfulls from the load. On commencing the load a net, or piece of net-work, made of small rope and resembling in appearance the cording of a bedstead, is spread over the bottom of the wagon, it being of sufficient size to cover it; the hay is then pitched on above this, until the load is about half on, when another net, similar to the first, is spread over the top of it, and the load completed. On arriving at the barn, a rope which passes through a pully, fastened to the ridge directly over the mow and from thence to the windlass, is hitched by means of a slight tackle, to the outer edges of the uppermost net, when, by means of the windlass, the man that came to the barn with the load can elevate that half of it above this net over the beam, and drop it into the mow, in the short space of two minutes; when the remaining half is elevated in the same manner. By lowering the hay down after it has passed over the beam, it can be swung to any part of the mow, and there dropped, thus saving entirely the mowing away. The apparatus, windlass, &c., can be removed from one barn to another in a few moments, and thus be made to answer for any number of barns desired. Farmers wishing to build or buy the apparatus, can obtain it, or drawings representing it, by applying to me at Rochester, N. Y. J. A. H. Ellis. *Rochester, May 6th,* 1850.

Preparing Land for a Crop.

A farmer has a field of clayey loam, which requires a weeks work at least to prepare it for corn, oats, or barley. Now how ought he to proceed?

It is not uncommon to see such lots turned over, and the furrow-slice left day after day, to dry and bake in the sun, without the least attention till the plowing of the whole field is completed.

Well, what better could he do?

Reduce what he has plowed to a fine tilth while it is moist and easily crumbles,—not leaving it to lie one day before he puts on the harrow or the drag-roller. A small share of labor at this time will do twice as much to pulverize the soil, as when it has hardened like an unburnt brick.

What! stop the plow before finishing the field! Farmers that drive a-head don't do so.

That is, they drive one day a-head, and leave their work two days behind. But let me ask what is the use of plowing land?

The use? why to put the ground in order—you could not expect a crop without it.

Neither ought we to expect more than half a crop when it is only half pulverized. If we plow 8 inches deep, and one half of this soil is in hard clods, how much better is it than to plow 4 inches deep, and have it thoroughly pulverized? How much better is a *clod* on the field than a *stone?* An Old Farmer.

Experiments in Dissolving Bones.

Eds. Cultivator—After reading Prof. Norton's interesting letter on the value of bones as a manure, I procured a load of bones (mostly the skulls of sheep) from a slaughter-house, and commenced the operation as detailed below.

Having procured a large flat granite rock, I placed it beside the pile of bones. I crushed 130 lbs. of them with a sledge hammer, and put them in a large barrel, pounding them down as they were put in. A carboy of sulphuric acid was then obtained from a druggist in Boston. The bill for the same ran thus:

1 Carboy oil of vitriol, 125 lbs.,	$3 75
Carting,	25
Carboy,	1 50
Freight.	67
	$6 17

This acid did not run *thick*, as Prof. Norton said, but rather thin. It would not burn *wood* nor *char bones*, but it would burn straw. This leads me to suspect that it had been diluted with water.

I took an old pail which held 10 quarts up to a certain mark. I poured into the pail five qts. of water and an equal quantity of acid, which ought to weigh 20 lbs., if good. Five qts. more of cold water was now added, and in about three hours the liquid was turned into the pail, and then turned on the bones again. This was repeated frequently on the two succeeding days, adding as much more acid and water on each day.

I practiced turning off the liquid and pouring it on the bones as a subsitute for stirring, as that was impossible in this case. I cannot see how *crushed* bones can be *stirred* and *turned over* in a barrel or hogshead. I hope some of your correspondents will enlighten us on this point. This experiment commenced on the 16th of May, and I expected to have the bones fit for use by the 21st, but they were not wholly dissolved till the 1st of June, so that I cannot use any of them on my corn without it is put on top of the ground.

I have just dissolved 90 lbs. more of bones in the same barrel, in about ten days, with about 11 qts. of acid, using *boiling* water, and proportionally a less quantity than before. The first barrel did not dissolve very rapidly, till the weather grew warm, near the first of June.

My object in writing this article, is to elicit remarks from those who have had practical experience in this method of manufacturing manure. I wish to know what to do with these bones? Will it be profitable to sow them on the ground this fall, with fall rye, where the ground is to be stocked down? What test have we to ascertain the quality of sulphuric acid? Will dissolved bones pay for this expense, in Vermont? I have 2000 lbs. of large bones. Will it be profitable for me to *burn* them for use? Warren Hutchins. *Bethel, Vt., July* 1, 1850.

Wisconsin as a Farming Section.

Eds. Cultivator—Noticing in a back number, a request that some one from Wisconsin would give you an article on the usual method of farming in this state, and the best sections of it for that business, I herewith submit a brief account derived from six years residence in the state.

First, as regards the best section of the state for farming. This is a hard question to decide, where all is good, and where it is claimed that each section is best. But, from a pretty extensive acquaintance with the whole state, I think the counties of Fond du Lac, Winnebago, Marquette, and Dodge, possess greater advantages for successful and profitable farming than any others. These counties are agreeably diversified with prairies, oak openings, and timber land. They are generally well watered with springs, and spring-brooks, while larger streams afford a greater quantity of water-power than is often met with in the west or even at the east. The natural meadows, or low prairies afford a sufficient quantity of good hay to supply the wants of the inhabitants. The Fox river, and lake Winnebago afford a good natural communication with the east. They have running on them steam and other boats connecting with the boats running to Buffalo.

For grazing, the country is admirably adapted; and sweeter or better butter cannot be made in any other part of the United States than is here made. Having formerly lived in Orange County, N. Y., I speak advisedly on this subject.

Sheep do well, and from the pure bracing air, can be kept in larger flocks than usual; while from the boundless pasturage that lies common, there is no necessity for close stocking.

In wheat raising, the great staple, the country is not surpassed, perhaps, in the world. Here, fields yield this crop year after year, and with most slovenly cultivation.

Secondly, as to the course of cultivation pursued on the prairies and openings. The land is enclosed with a rail, board or ditch fence. It is then broken up with from two to six yoke of cattle. The width of the furrow turned over varies from 12 to 30 inches, and is from 1½ to three inches thick. The larger the team is, the more economical, as a heavy team will break so much more with the same force of men, as to more than pay for the difference in the number of oxen. The price of breaking is from $1,75 to $2 an acre. The season for breaking is from the 10th of May till the 10th of July. It is not advisable to break earlier or later than these periods. If it is done, the sod is a very long time in rotting and does not produce so well. Corn is sometimes planted on the sod—planted when the breaking is being done, at the edges of the furrows. No after culture is given until the corn is cut up at harvest. Half a crop is realized in this manner. But the best crop, and the one most generally put upon the sod, is wheat which is sown from the middle of August to the 20th of September—the earlier time being the best. The first crop is always a certain one, both in quality and quantity—averaging 25 bushels to the acre, and sometimes yielding 40 and 45 bushels an acre. The land is generally cross plowed immediately after harvest, and sown again to wheat. This requires one good team and is pretty hard work for it. The succeeding plowings are all easy for one team. A horse team will plow with ease two acres a day, six inches deep, which is the most common depth, though I have found that deeper plowing answers a better purpose.

There is no general system of rotation yet adopted, except to take indiscriminately crop after crop of grain, and this without any manure or seeding to grass; and the land is so fertile that it will well reward the farmer for his labor. I do not say this is good husbandry, but it is the most common.

We have some better farmers among us, who instead of burning up their straw to get rid of it, draw it to their cattle-yard, and after it has become rotted by the trampling of the cattle and the soaking of the urine, spread it upon their land. There are many among us who are cultivating the tame grasses clover and timothy, and this is necessary with us, if for no other purpose than to clean our lands which by constant croppings will become foul.

To sum up the advantages which this state possesses; it is of great fertility, easily brought into a state of cultivation, and well adapted to the different branches of agriculture. It is well watered, and well-timbered, while the prairies and openings afford a boundless supply of the best of pasturage, and the low prairies afford quantities of good hay. It possesses great water power which is fast becoming improved. It is studded with thriving villages, and is settled with an intelligent, enterprising people, and lastly, it is healthy—not being surpassed in this respect by any portion of America. T. Green. *Waupun, Fon du Lac Co.*

Cutting Wheat Early.

Eds. Cultivator—The subject of the early cutting of wheat has received attention for several years; but I am convinced that it is not understood and practiced to the greatest profit. It has been the common method to put the wheat up in stooks—two rows of bundles, the tops resting against each other. In this way the heads are exposed to the full force of a harvest sun, which soon dries them and the straw, so effectually as to prevent all nutriment passing from the straw to the grain.

My method, at beginning of harvest for several years past has been this: We begin our harvest early, bind at first in quite small bundles, stook them by putting eight or nine in a stook, with a larger one for a cap. In this way the grain is secured from being suddenly dried, the nutriment from the straw continues to pass to and nourish the grain, as long or longer than if the wheat were standing, and if well put up it is secure from almost any weather; so that our first cut is frequently last carted to the barn or stack. I have taken heads from stooks thus put up, which, with the straw were green, and the grains when shelled were dry, fit for grinding, but were plump, thin skimmed, and almost transparent, whilst wheat which stood and ripened in the sun, was thick skinned and looked shrivelled, and this in seasons when no rust or casualty attended the crop. We can begin harvest earlier by this method, and our straw will be more valuable for fodder, as well as the wheat for flour. If the crop cannot be cut till nearly or quite ripe, we can then put it in stouts as the stooking is a trifle, and but a trifle more work to an experienced hand. R. Watkins. *Napoleon, Michigan, June* 22, 1850.

Wire Fence—Red Cedar Hedges.

Eds. Cultivator—Some two months ago I wrote you, making inquiries about the expense of wire and wire fence, which you were kind enough to answer. Since that time I have put up about one hundred rods of wire fence, five strands high. I made it after the plan of A. B., described in your April No. I set chestnut posts at the ends or corners of the lines, and braced them. Having a lot of chestnut rails on hand I cut them in two, each making two stakes, which I set apart the distance of a rail's length. I put my bottom wire 12 inches from the ground, and each wire about 9 inches from the one below it, which makes the fence 4 feet high. I used about half No. 10 and half No. 9 wire annealed. The fence all set and completed, cost me about 37½ cts. per rod.

Were I to set more, I should use no wire finer than No. 9, of good quality. I feel quite confident in regard to my No. 9 wire, but of the No. 10 I am not so confident. It needs to be proved. After setting it, my men drove some cows against it, but it brought them up, and no damage to the wire. Our mode of straining the wire was as follows: Take a hickory stick, say 2½ inches in diameter and two feet long. With an inch and a half auger bore a hole, say two inches from the end; through this put a stick, say two feet long, for a lever. Between this hole and the end of the hickory stick, at right angles with the 1½ inch hole, put through a large wood screw, to prevent splitting. About 6 inches from the other end, put through a hole ¼ of an inch or less in diameter, and your *strainer* is done. Insert your wire through the lever and post at each end, fasten it at one end, and draw it as tight as convenient with your hands at the other. Slip the wire through the small hole in the strainer, and turn until you have taken out the kinks and made the wire as tight as you please.

I think this strainer preferable to A. B.'s, as it is easily made, and you can strain each wire separately as tight as you please, and one strainer answers for all the fence you may ever wish to make. And should a wire ever break, that alone can be mended without interfering with the others. At first, to hold the wires at the ends, we drove in pins, and then brought them half way round the post to the main wire and twisted a few times around this. But should you wish to alter the wire, or should it break, it is not easy to get it out where the pin holds it. There is no need of a pin, as the wire can be brought back and fastened as above mentioned without, as well as with it; and if you wish to slip it afterwards, you can without trouble. I obtained my wire of Burbank, Chase & Co., in Lowell. They had about 200 lbs. No. 10 on hand, which they sold me at 5 cts.; they ordered me 109 lbs. No. 9, for which I paid 6½ cts. The No. 10 seemed to be a wire of inferior quality such as I would advise no one to use. Although at first cheap, I think in the end it may prove dear. The No. 9 was soft and strong, and I have no doubt will meet expectation.

Instead of the Three-thorned Acacia, as I last wrote you, I have been advised by a gentleman from Long Island to set Red Cedar, by the side of my wire for a hedge. He recommends to set them, say 4 feet apart, and when they get 4 or 5 feet high, cut them half off and bend them down, when the sprouts will grow upwards and downwards and onwards until a complete mat of hedge is formed, so that, to use his own language, "the devils can't get through it." I told him if it was so, I would be under great obligations to him, for we have quite a number of that kind about here, and that it was just the fence we wanted. It of course must be pruned upon the sides and on top like other hedges. I would like to inquire, through the Cultivator, if you please, about red cedar hedge. I wish it to turn such characters as above alluded to, rather than for beauty or ornament. George Mansfield. *Lowell, Mass., June 26th*, 1850.

Morgan Horses.

Eds. Cultivator—As I am frequently called upon by letter to give the pedigree of the original Morgan horse and of his immediate descendants, I now ask leave, through your columns, to refer those who may not be aware where the information may be found, to the volume of the *Cultivator* for 1846, in the number for January, page 19, and in that for April, page 106.

The very extensive and well-deserved reputation which the Morgan horses have obtained, has furnished quite a strong inducement for the unscrupulous to pass off as such, upon the public, horses of different breeds and inferior qualities; as well as to overstate the pedigree of those which really have a small part of the genuine blood.

Those who become the subjects of these impositions, will of course, be greatly disappointed in their expectations of raising valuable horses. And it is evident that but little reliance can be placed on the results, where the blood of the parents is strained down so low as an eighth or a sixteenth.

From what I have learnt, I am convinced beyond doubt, that these frauds have already been practiced to a considerable extent, not only in your own, but also in other states, and that further acts of the same kind are in contemplation. Indeed I know of several instances where horses are advertised as being of the Sherman, Bulrush, Woodbury, and Gifford stock, which have not a particle of the blood of either running in their veins.

The number of breeding mares possessing a high strain of Morgan blood, whose descent can be satisfactorily traced, is at this time, and for many years past has been, very limited indeed; and there are but few cases where pedigree, on the side of the mare, can be fairly established by convincing evidence.

It is apparent therefore that such persons as desire to obtain Morgan horses of the true blood, must scrutinize, with particular care, the statements of those who offer them either for purposes of breeding or for sale,—and that a neglect of this necessary precaution will not only defeat their own hopes and wishes, but also tend to bring undeserved discredit upon the race itself. Frederick A. Wier. *Walpole, N. H., July* 16, 1850.

Maryland Agriculture.

Mr. John R. Howard, who lately spent some time in Virginia and Maryland, furnishes the following from his notes on the condition and resources of agriculture in those sections.—Eds.

R. N. Milburn, Esq., of Baltimore, who owns a farm near the mouth of St. Mary's river, and has lived at that place many years, says, although there have been no surveys with a view to ascertain the *location* and *quantity* of marl, it is certain the beds are very numerous. They are three, six, and sometimes ten or fifteen feet thick, and of an unknown extent. Wherever the marl has been used, it has produced increased crops to an *astonishing degree*. It sometimes lies near the surface, and sometimes six or eight feet below. Most of the beds that have been discovered are in ravines, where the water has washed off the surface and exposed to view the pearly substance. In that part of the country there are many beds of oyster shells, but slightly decomposed. A question arose, how could they have been deposited there? He says by the Indians. They are one to six feet thick, and lie considerably above tide water. Bones of racoons and other animals are found there also. These beds (some of them at least) are found to exist within 3 or 4 miles of where there has been Indian towns. These shells are burnt, converted into lime and used as manure, and large crops of clover, &c., are made to grow where little or none grew before. Then follow crops of corn, wheat, &c., that are large in proportion.

Sheep Husbandry.—Mr. M. says he bought, in the fall of 1848, of Mr. Reybold, of Delaware, three ewe lambs of the Cotswold breed, for which he paid $80. Since then, he has raised from them three others, and lost one. He could now sell the six for $160. His flock of native sheep usually consists of about 60 head. He reserves his clover fields till the clover is in bloom; then puts in the sheep, and some of the crop remains till winter, affording sufficient sustenance for the sheep through the winter, except when there is snow on the ground, at which times he gives them corn fodder.

He says sheep are his most profitable stock, and his land, treated in this way, becomes very *highly improved;* much *more so* than by plowing in the clover, or leaving it on the ground. He has made experiments in these three different methods. He says beans are more valuable than corn for feeding to sheep—they keep the sheep healthy and promote the growth of the wool, more than any other food.

Peat as Manure.

In the Report of the York County (New Brunswick) Agricultural Society, we find some useful obsevations on the value of peat as manure, by Prof. Robb, of Fredericton, a gentleman of high standing as a geologist and chemist. He gives three modes by which this substance may be advantageously used for the improvement of soil, as follows:

1st. It may be carted to the barn-yard and spread all around, so as to absorb all the liquid manure, which it will do like a sponge; not only will it thus soak up and fix liquid and gaseous matters, which would otherwise be lost, but it will thereby take on a state of fermentation itself, which will result in its becoming soluble and proper for the food of crops. When one layer is soaked and fermented, more or less, it must be renewed, or replaced by fresh stuff from the bog, which will thus become a permanent benefit to the farm.

2d. The peaty substance may be very advantageously composted and brought to a soluble form thereby. If three loads of half-dried peat earth be mixed with one of stable manure (green,) there will be formed four loads of manure equal in value to cow dung itself, for the ordinary root and grain crops. A layer of dry peat should form the base of the compost heap, then a layer of green manure then alternate layers of peat and manure, ending with a *thick* layer of peat. If ashes be added, or if the heap be occasionally watered with urine, decomposition will be more rapid, and the compost be more fertilizing. In six weeks, more or less, according to the season, the heap may be shovelled over and then carried on to the field, where its effects are equal, if not superior, to the same quantity of common dung. It may be applied to any soil deficient in vegetable matter, and in any way, exactly as if it were so much well rotted yard manure. By ashes alone, the peaty earth may likewise be converted into the food of plants; but I believe it is best to use them as above directed.

3d. The peat may be burnt in the fields for its ashes, which are applied with very good effect as a top dressing to meadows, at the rate of 40 or 50 bushels per acre.

Agricultural and Horticultural Fairs.

State Societies.—*New-York*, at Albany, Sept. 3, 4, 5, 6.

Ohio, at Cincinnati, Sept. 11, 12, 13. The annual session of the *American Pomological Congress* will be held at the same time and place.

Maryland, at Baltimore, October 23, 24, 25.

Michigan, at Ann-Arbor, Sept. 25, 26, 27.

Rhode Island, at Providence, Sept. 18, 19, 20.

New-Hampshire, at Concord, first week in Oct.

Canada West, at Niagara, Sept. 18, 19, 20.

American Institute, New-York.—The exhibition will open on the first of October, and continue for three weeks. Plowing and Spading Matches at Tarrytown, Oct. 11. Cattle Show, corner 5th avenue and 23d streets, Oct. 16, 17, 18.

Georgia, at Atlanta, Aug. 15.

N. Y. County Shows.—Cayuga, at Auburn, Sept. 24, 25—Saratoga, at Mechanicsville, Sept. 17, 18—Seneca, at Ovid, Sept. 26, 27—Monroe, at Rochester, Sept. 25, 26, 27—Sullivan, Sept. 18, 19—Otsego, Sept. 24, 25—Madison, Sept. 26, 27—Oswego, Sept. 25, 26—Wayne, at Clyde, Sept. 18, 19, and at Palmyra, on the 25th, 26th—Livingston, Sept. 24, 25—Ontario, Oct. 1, 2—Suffolk, Sept. 24—Washington, at Argyle, Sept. 18, 19—Oneida, at Rome, Sept. 18, 19—Clinton, at Keeseville, Sept. 24, 25.

Conn.—New-Haven Hort. and Agricultural, at New-Haven, Sept. 24, 25, 26.

Vermont.—Addison, at Vergennes, Sept. 25.

Science as Applicable to Agriculture.

The following remarks from the *Farmer's Guide*, a work which we have noticed on several occasions, we recommend to the attention of our readers. Eds.

"Agriculture may perhaps be considered one of the experimental sciences, as its principles are no doubt demonstrable by the test of experiment, although farmers have not yet attempted to deduce principles from practice. The necessity for such a deduction is, no doubt, the less urgent, that husbandry is usually pursued as a purely practical art; and the facility of thus pursuing it successfully, of course renders practical men indifferent to science, as they consider it unnecessary to burden their minds with scientific results, whilst practice is sufficient for their purpose. Could the man of practice, however, supply the man of science with a series of accurate observations on the leading operations of the farm, the principles of these might be truly evolved; but the greatest obstacle to the advancement of scientific agriculture is to be sought for in the unacquaintance of men of science with practical agriculture. Would the man of science become acquainted with practice, much greater advancement in scientific agriculture might be expected than if the practical man were to become a man of science; because men of science are best capable of conducting scientific research, and, being so qualified, could best understand the relation which their investigations bear to practice; and, until the relation betwixt principles and practice is well understood, scientific investigation, though important in itself, and interesting in its results, would tend to no practical utility in agriculture. In short, until the facts of husbandry are acquired by men of science, these will in vain endeavour to construct a satisfactory theory of agriculture on the principles of inductive philosophy."

Chess will Grow.

Last fall I selected a dozen grains of chess and sowed them; they came up and wintered well. In the spring, I transplanted them, and they are now just heading out, fine *chess*.

I had some seed wheat last fall which contained a *large* quantity of chess. I poured it into a strong brine, and then decanted it, so as to turn off most of the chess. It was then sown, and it has but a *very few* spires of chess in it. W. H. *Bethel, Vt.*

It is strange that the idea that chess will *not* grow, should have ever been entertained. It grows as readily, and produces "seed after its kind" with as much certainty as any other plant. This has been repeatedly proved by experiments. Eds.

Leaves as Manure.

Leaves, buds, and tender branches are peculiarly rich in the vegetable alkali; besides which they contain other organic elements derived from the soil, and which, by being returned to the soil, enrich its surface, tending to prevent its exhaustion, or when newly applied,—that is to other ground,—to enrich it more than superficially.

Leaves—and the remark is applicable to the tender branches also—seem destined by nature for the manure of forest land, and indeed, of ground generally wherever trees grow. The roots collect the inorganic elements essential to vegetation from the soil, penetrating deeply and widely; the leaves detain and store up a certain portion of them, with other elements derived from the atmosphere, such as are required for their growth; and these returned to the soil with the fall of the leaf, and there undergoing decomposition, are ready to be appropriated again, and re-administer to the process of vegetable growth. *Farmer's Herald.*

Waste of Manure.

Little or no pains is taken usually to save the liquid manure of animals; no earth or saw dust is placed in or beneath the stable to absorb it; and the barn-yard is often so situated, that all the liquids that would collect in it, run off into the street, or are conducted to the adjoining field, where they are so little spread about, as to injure the crop by producing an immoderate luxuriance. Liquid manure is exceedingly valuable, and the yards and stables of the farmer should be so constructed, that it may all be saved. There should be no outlet to the barn-yard, where the fluids collected in it can run off. They should either be taken away, and applied directly to the land, or poured upon the compost heaps in and around the barn-yard. The turf about his fences and stone walls, or the mud and muck from his swamps, should be collected in heaps or spread around his yard in order to absorb the fertilizing liquids collected there.—*Address of* S. Hart, Esq., before the *Hartford County, Ct., Ag. Society.*

Notes for the Month.

Communications have been received, since our last, as follows: Prof. Norton, E. G., (written in German,) A. L. Bingham, Sylvanus, Warren Hutchins, R. Watkins, T. Green, D. S. Curtis, D. Thomas, D. T., F. A. Wièr, John W. Bailey, A. D. S., W. L. Eaton, A Constant Reader.

Books, Pamphlets, &c., have been received, as follows:

The Architecture of Country Houses; including Designs for Cottages, Farm Houses and Villas, with Remarks on Interiors, Furniture, and the best modes of Warming and Ventilating. With Three Hundred and Twenty Illustrations. By A. J. Downing, Author of Designs for "Cottage Residences," &c. &c. New-York, D. Appleton & Co. Price $4. From the Author.

Speech of Hon. J. A. King, in the H. of R , June 4, on the admission of California. From the Author.

Transactions of the Michigan State Ag. Society, with Reports of County Societies for 1849. From J. C. Holmes, Sec'y.

Transactions of the N. Y. State Ag. Society.—This volume, comprising the doings of the Society for 1849, is just issued. It contains 944 pages, and is superior in the quality of its matter to any volume which the Society has previously published. It contains the highly valuable and interesting lectures delivered in this city last winter, by Prof. Johnston, the prize essay by Prof. Norton, entitled "Elements of Scientific Agriculture," (which has also been published in a separate volume,) and which ought to be in the possession of every farmer in the country. The volume also contains the conclusion of the agricultural survey of Washington county, by Dr. Fitch, with several valuable papers communicated to the Society. Several engravings of prize animals, and choice fruits, and representations of the show grounds at Syracuse, are given, which are generally executed in a superior style.

Importation of Short-Horn Cattle.—Col. J. M. Sherwood, of Auburn, has imported a very fine heifer, now about two years old, and a bull calf eight months old, from the noted herd of Mr. Stephenson, of Durham, England. The animals arrived here about the first of July. They had evidently suffered from their long voyage, though they appeared in good health, and will probably recruit rapidly. We shall expect to see them, with some of Col. S.'s other fine animals, several of which were also from Mr. Stephenson's herd, at the coming show of the State Ag. Society, at which time we presume they will be prepared to appear in their accustomed plight.

French Merino Sheep.—Mr. A. L. Bingham, of Cornwall, Vermont, gives the weight of wool, unwashed, obtained the present season from 83 Merino sheep, of the "Taintor Stock," together with the aggregate live weight of carcass of the same sheep, obtained after they were shorn. Twenty-seven of these are stated to have been only ten months old when shorn. The aggregate of eighty-three sheep, was 10,458 lbs., being an average of 126 lbs. each. Aggregate weight of wool obtained from the eighty-three sheep, was 1,494 lbs., or an average of 18 lbs. each fleece, and two and two-sevenths ounces of wool for each pound of carcass. The growth of the fleeces is stated to have been just one year, with the exception of the lambs which were but ten months old. The ewes, it is stated, produce "three crops of lambs in two years."

Etrurian Wheat.—E. Cornell, Esq., of Ithaca, informs us that he has raised this variety of wheat for the last five years, having obtained the first sample of it from Mr. Ellsworth, late Commissioner of Patents. He considers it a very valuable variety, being hardy, yielding well, and affording a superior quality of flour. At one of the agricultural discussions in this city the past winter, Mr. Brewer, of Tompkins county, spoke favorably of this kind of wheat, stating that it weighed 64 pounds to the bushel.

The Season and Crops.—The month of April was remarkable for its coldness, and May was equally remarkable for its wetness, both circumstances conspiring to render crops generally backward. Planting, except in favorable locations, was much delayed, and in some instances the seed perished without vegetating. In this section there has been a liberal supply of moisture, but in the western part of the state, and in Ohio and Michigan, a severe drouth was experienced through the month of June. The growth of grass has been very luxuriant, except in situations where drouth prevailed, as just mentioned. Corn looks well, considering the lateness of planting.

Heavy Rains.—We have had several copious rains in this vicinity, which have considerably interfered with the process of hay-making; and on the 5th of July a storm occurred which occasioned considerable damage by flooding crops on the banks of streams, carrying away bridges, &c. Nearly three inches of water fell at this place, in the space of four hours. This storm was, however, comparatively limited in extent, especially from north to south, in which direction its force was principally confined to a width of less than thirty miles. From west to east it extended two hundred miles.

On the night of the 18th of July, and the forenoon 19th, we were visited with a rain storm of great extent. We hear of its effects as far south as Chesapeake Bay and northward as far as lake Champlain. Its extent from west to east, we have not yet learned; though it was very severe in Central and Western New York, and reached eastward as far as Boston. Over all this territory the rain was very heavy, and to the southward, from New York to Baltimore, it was accompanied with very severe wind, which occasioned considerable damage to shipping, and to buildings in cities, and in many instances, great injury to fruit and other trees. A letter from Mr. Thomas Hancock, of Burlington, N. J., dated July 19th says—"We have had an awful storm of wind and rain. It commenced during yesterday afternoon, with the wind south, and soon changed to the north-east, and the rain fell in torrents through the night. The damage done to fruit-trees, and fruit is very great. Much of the green fruits shaken off, and many of the trees are blown down. I have eight large apple trees, and three large pear trees prostrated, besides many more being injured by being blown partly down. The damage to oats is great—they being beaten down as though a roller had passed over them."

A letter, dated July 20th, from Mr. John Johnston, near Geneva, N. Y. says—"It has rained almost incessantly since the 18th, with high wind the greater part of the time. I have never seen such a rain-storm at this season of the year, in the twenty-nine years I have lived here. Crops of all kinds are prostrated and the damage will be immense."

The water in the Hudson at this place, rose to a greater height than it had been for two years previously—completely submerging the islands and alluvial banks in the vicinity, and doing incalculable damage to crops of vegetables cultivated for market, and ruining the hay crops on all low lands. We understand the damage to grass, broomcorn, and crops, along the Mohawk flats, and other large streams, is beyond estimation. Such a flood in the month of July, has seldom, if ever, happened before in this region.

Prices of Poultry and Pheasants in England.—A letter lately received from Messrs. Baker, of London, gives the following as the prices of birds from their celebrated "pheasantry."

Malay cocks, $6.25 to $8.75 each; hens, $2.50 to $3.75 each.
Cochin-China cocks. $10; hens, $5 to $7.50.
Speckled Dorking cocks, $5; hens, $1.75 to $2.
Spanish cocks, $6.25 to $7.50; hens, $2.50 to $3.
Sussex cocks, $5; hens, $1.75.
Pheasants—Golden, $17.50 per pair.
" Silver, $17.50 "
" English, $6.70 "

Messrs. Baker are large breeders of ornamental poultry and water-fowl of every description. It may be interesting to some of our fanciers to know where they can obtain choice birds.

Cattle for Nova Scotia.—James Irons, Esq., as agent for the Provincial Agricultural Society of Nova Scotia, purchased, in June last, several fine animals in this vicinity, viz, *Ayrshires*, purchased of E. P. Prentice, Esq., one two-year-old heifer, two yearling do., one yearling bull calf; of *Herefords*, purchased of E. Corning, Esq., one yearling bull and one yearling heifer. All these were very fine animals, and will, we trust, well reward the praiseworthy enterprise of our brother farmers of Nova Scotia.

Sale of Mr. Sheafe's Stock.—Our readers, who wish to purchase short horn cattle or South Down sheep, will bear in mind that the sale of Mr. Sheafe's stock, is to come off at New-Hamburgh on the 29th inst. See advertisement on last page of this paper.

Live-Stock at Auction.—We invite attention to the advertisement of Mr. Stickney, in this number. He has taken great pains in procuring the best Devon cattle, South Down sheep, Suffolk and other breeds of pigs, and has excellent specimens of all these stocks. His swine are much esteemed for their fattening tendency, and when slaughtered, bring an extra price in market, on account of the superior quailty of the pork and the great weight in proportion to offal. A better opportunity for obtaining stock of these kinds, can hardly be expected to occur.

Country Seats.—The Rensselaer County Ag. Society has offered a premium for the best designed "country seat." Competitors are requested to send drawings and descriptions, showing the plans of their dwellings, gardens and grounds; and the name of the successful competitor is to be reported to the State Society.

Wheat and Chess.—P. Gregory, a correspondent of the *Canadian Agriculturist*, states that several years ago he found wheat and chess on the same stalk; and supposing at the time that both had grown from the same seed or germ, he drew the inference "that wheat must produce chess, or chess wheat." He therefore set himself to experimenting on wheat and chess; but after all his experiments, he says—"like produces like, in spite of all the ill treatment I can give them." He asks for an explanation of the mystery. The editor of the paper referred to very sensibly observes that "oats as well as chess, have been found adhering to a head of wheat," but their growth from the same stem was only "apparent"—the oats or chess was only entangled with the wheat.

Western Butter.—Cobb & Co., of Buffalo, in a letter to the *Ohio Cultivator*, state that the receipts of butter at that port for 1849, amounted to 9,714,170 lbs, more than two thirds of which was from Ohio. A very small proportion only of this ranked as prime—far the greater portion having been received as *grease* butter. It is stated that the great bulk of Ohio butter did not net the shipper more than six to seven cents per pound. The bad quality of the butter is charged to several causes; as impure salt which it is said converts the butter into a "discoloured pasty substance resembling soap"— the salt imperfectly incorporated with the butter, the butter-milk imperfectly separated, exposure of the butter to the air, both before and after it is packed, &c. The improvements suggested, are the use of solar evaporated sea salt, greater care in packing—"smooth, clean, well made, oak kegs, capable of holding about 100 lbs," being recommended, and the kegs to be protected as much as possible from the air. Placing the kegs of butter in larger casks and filling the space with oats, is thought to be a good mode of sending to market. The oats, it is said, "will pay cost and transportation."

Long-wooled Sheep.—A writer in the *American Farmer* states that he was present at the shearing of several long-wooled sheep owned by James N. Goldsborough, of Talbot county, and the following is given as the weights of the carcasses and fleeces:

A three year old Oxfordshire ram weighed..	235lbs
His fleece, washed wool, weighed	7¼lbs
A yearling grade Lincoln ram, weighed	171¾lbs
His fleece washed wool weighed	8¾lbs
A three year old New Leicester ewe	212¼lbs
Her fleece washed	7¼lbs
A three year old New Leicester Ewe	194¼lbs
Her fleece washed	7¼lbs

Use of Carbon in the Soil.—It has been ascertained by experiment that carbonic acid is essential to the growth of plants; but it has been a question whether the plant could obtain through its leaves a sufficiency of this food from the atmosphere, or whether it is necessary that it should be present in the soil. Liebig and his followers have held that it was not necessary in the soil—the only use of vegetable or organic matter being, as they argued, to impart the requisite "physical texture" to the soil. A paper lately published in France on the food of plants, gives the results of some experiments on this subject, which are important. The experimenter took two boxes, in one of which was placed a quantity of soil which had been burned so as to destroy all organic matter; in the other a like quantity of the same kind of soil in its natural state was deposited. Peas were planted in both boxes, and the growth of the plants in the box carefully compared. Those in the natural soil flourished much the best, and no reason could be assigned for the difference, except the greater quantity of carbon in the natural soil.

The Wool Clip of 1850.—The shipments of wool this season to the 1st July, from Cincinnati, amount to 1784 bales and 14,366 lbs., against 913 bales and 569 lbs. to same date last season. One steamer from St. Louis, a few days since, discharged 101 bales (13,432 lbs.) of wool, shipped from Booneville. At Pontiac, Michigan, to the 20th ult. over 200,000 lbs. had been purchased of the clip of 1850. The fleeces have been unusually heavy this spring—one merino buck in Monroe county, New York, yielded, it is said, 18 lbs.! It is estimated that 65,000,000 lbs. will be wanted the present year for domestic consumption. In Macomb, Michigan, about 10,000 lbs. of wool have been already purchased this season, which is double the product of that county in any previous year. *Providence Journal.*

Cheap ice.—Mr. Nahum Hardy, in a communication to the *Mass. Plowman*, recommends that every neighborhood should have an ice-house, which should be of sufficient capacity for holding all the ice that may be wanted in the vicinity. The house should be near where the ice is made. If there is no natural pond, it is an easy matter to make one. His mode of keeping ice for daily use, is worthy of notice. 'The box which I have used for the last six years, is made of common inch and a quarter pine boards, and cost two and a half dollars; is about four and a half feet long, and three and a half wide, and about three deep: this stands, through the hot season, as near the cellar stairs as it can be conveniently set; into this, about once in sixteen days, I put as much ice as can be conveniently stowed, and have room at top to set such things as we wish to keep as cold as ice. A firkin of corned meat in one corner, a box of butter, fresh meat, fish, anything we think proper. The expense of all this is only from three to four dollars a year."

INFRINGEMENT OF PATENTS.—The late Commissioner of Patents, in his Report, makes the following just observations on this subject:

"The experience of every day, and the prolific crop of litigation which has recently sprung up from the unscrupulous and remorseless invasion of the rights of patentees, by persons who have no claim nor pretension to the name of inventor, nor of the fruits of inventive genus, point with impressive force to the necessity of some reform in the existing laws which shall give greater security to the rights vested in patentees. The facilities of evading punishment or retribution for a wilful infringement of the property of patentees is now so great, that the whole term during which a patent runs is not sufficient, if it be for a very valuable invention, to vindicate and establish the just claims of the inventor. This evil could be remedied by a few simple amendments to the existing law of patents."

BANTAMS—*Sport in the Drawing Room*.—On Saturday, the 1st of December, Beacon Lodge, the residence of the Hon. Mr. and Mrs. Berkeley, was opened for the reception of visitors to witess a show of beautiful bantams, the property of the Marchioness of Hastings and the Hon. Mrs. Berkeley, for a prize. The smallest bird to be adjudged the winner. Three two years old hens to be shown by each lady. A diminutive hen, weighing only nine ounces and three quarters, the property of the Hon. Mrs. Berkeley, was adjudged the winner. Among the guests who partook of the hospitalities of the table, were the Marchioness of Hastings and Captain Yelverton, Col. and Mrs. Clinton, Mrs. and the Miss Raynardson, of Hinton, Admiral, Major, and Miss York, Mr. and Mrs. Lock, Mrs. Howell, Mr. Edward Stratton Berkeley, and Mrs. Roebuck, &c. *Eng. paper.*

GREAT YIELD OF HAY.—The *Greenfield* (*Mass.*) *Gazette* states that a field containing 7 acres and 100 rods belonging to H. W. CLAPP, Esq., of that town, has yielded the present season 29 tons 497 pounds of hay, by actual weight; or over four tons to the acre.

ADVANTAGE OF RAISING GOOD STOCK.—Let us look for a moment at the raising of stock for market. Does it cost any more to rear for sale a good colt, than it does a poor one? Probably not five dollars more. The poor animal is a drug in the market at from $60 to $75, while the other will command readily from $100 to $200. Good horses are and will ever be, in demand—are and will ever be sources of profit to the farmer, in a grazing district. But good horses will not come from poor stock and neglect. Constitutional peculiarities, family traits of health, strength, endurance, docility, &c., follow physiological laws as surely here as in the human race. If then the farmer would get profit from his horses in the market, he must make them enough an object of attention, that he shall raise, only from good stock and with due regard to the laws of animal physiology. *Granite Farmer.*

Prices of Agricultural Products.

[*Review of the Market for the last month.*]

ALBANY, JULY 20, 1850.

The market for most descriptions of produce since our last report, has been comparatively dull, and will probably continue so for a month to come. An extensive and profitable fall business is very generally anticipated.

FLOUR. The sales during the month have been about 20,000 bbls. chiefly in retail lots for the trade or on Eastern orders; the range between brands of common State flour, liable to sour, and brands of fancy and extra Genesee has become wider, and while the former have declined 25 to 37½c. per bbl., the latter have been firmly maintained. Quotations may be given at $5*a*$5.25 for common to straight State, $5.50*a*$5.62½ for Western, $5.75*a*$5.87½ for fancy do., $6*a*$6.12½ for pure Genesee, $6.12½*a*$6.25 for fancy do., and $6.25*a*$7 for extra do.

The first lot of new Genesee wheat flour was received here on Wednesday, and sold in half bbls. at $7.50 the pair.

GRAIN. For prime Genesee wheat there has been a fair milling demand, but quotations, in view of a bountiful harvest, rule lower the sales are 12.800 bush. pure Genesee, at prices ranging from 145 to 137½c., at which rate a sale of 1700 bush. was effected yesterday. Rye is in moderate demand; we report sales of 5,800 bush. at 59*a*61c.; the market is firm at the higher quotation. Oats are in good demand, and quotations have been maintained throughout the month with uniformity, ranging at 46*a*48c. for Canal, and 49*a*50c. for heavy Canadian; with sales of 95.000 bush. The demand for Corn has taken all offering, and still continues in excess of the supply; the sales have been principally of Western mixed, and quotations which at the close of last month were 59*a*60c. declined to 57½*a*59c., and then rallied again to 61½*a*62c., at which rate sales were made yesterday; round yellow is 59½*a*61c., and damaged 55*a*59c.; the aggregate sales since our last report have been about 185,000. bush.

FEED has been in good supply and the market easier; the transactions are about 75,000 bush. at a slight reduction upon our last quotations.

SALT. The market closes rather firm for bbls., which may be quoted at 98*a*100c. Bags 11c.

WHISKEY is still in limited supply; the sales are about 1200 bbls Ohio and S. P.; the market is 25½c. for the former and 26c. for the latter.

WOOL. The only sale of moment of the new clip was made yesterday at 37½c. for 5,000 lbs. medium mixed; in the street lots are taken at 28*a*37½ according to grade.

PROVISIONS.—The trade is confined almost exclusively to a retail demand. We notice sales 15 hhds. Western smoked shoulders at 4½c. In Pork, a lot of 42 bbls. clear sold at $12.50, and in Beef, 200 tierces City Mess at $16.

Wool Market—July 24, 1850.

Before the shearing was fully completed, much exeitement was observed in the market, caused mainly by the strife between the purchasing agents of manufacturers and dealers; and nearly the entire clip of the country was bought up with unusual expedition. Prices in the Western States advanced 5 to 7c., and in the Northern, Eastern and Middle States 3 to 5c. above those of last season. The prices of woolen goods continue lower than in January and February last; but notwithstanding this, there is a strong probability that the ruling prices of wool will be fully maintained; and if the manufacturers work up their wools with but little profit, they may censure themselves quite as severely as they do the speculators—as their movements to obtain the wool direct from the growers, quite as much as any other cause, produced the excitement. We hear of sales of very superior clips to manufacturers' agents, in Duchess Co., and in Washington Co., Pa., at 50 to 55c. The law of demand and supply will materially assist in keeping prices up. The latest intelligence from Europe shows great activity in the market, at advanced rates. We quote,

American Saxony Fleece,	44*a*50c.
Full blood Merino,	40*a*42c.
½ and ¾ do.	36*a*38c.
Native " ¼ do.	31*a*34c.

Hay, Straw, and Corn Stalk Cutters.

THE Celebrated Patent Adjustable, Spiral Knife Hay Cutter. Premium Straight Knife Hay Cutter. All sizes, for Hand or Horse Power. Warranted.

Mediterranean Seed Wheat, of a choice quality and pure. This wheat is coming into very general use, and is much approved of.

Also, other varieties of Winter Wheat and Rye.

For sale at the Albany Agricultural Warehouse and Seed Store,
369 & 371 Broadway, Albany.
August 1, 1850. EMERY & CO.

Taintor Buck for Sale.

THE subscriber has for sale a Full Blood Merino Buck, purchased of J. A. TAINTOR in the fall of 1847 Bred by him from his importation of 1840.

This Buck is now 3 years old, and surpassed by none for beauty of form with weight of carcass and fleece.

Those wishing a cross from this Buck with Paular ewes, will please notice advertisement in May No. of Cultivator, page 188

Galway, Saratoga Co., Aug. 1—1t.* ALFRED H. AVERY.

The Cottage in the Glen.

BY SYLVANUS.

A little cottage lieth,
  Embowered in the glen,
Secluded from the bustle
  And crowded haunts of men.

A mountain riseth o'er it,
  A rill flows by the door,
An oak tree stands before it—
  Beside the cottage door.

Upon its walls are creeping,
  Fresh vines of living green,
While from their dark leaves peeping
  Bright golden flowers are seen.

And many birds are singing,
  Upon the old oak tree,
And lightly they are winging
  Their courses o'er the lea.

A group of merry children
  With cheeks of ruddy hue,
Are sporting by the streamlet
  So beautiful to view.

Around the cottage spreading,
  On every hill and vale,
The golden grain is bending,
  Before the rising gale.

The cot, the hill, the river,
  The oak tree by the door,
The many birds that revel
  The cottage front before,

Seem like some fairy picture
  Engraven on the eye,
The pencillings of fancy,
  Which vapor-like will fly.

But no! to fairy regions,
  'Tis vain for us to go,
To find more glowing pictures
  Than industry can show.

For beauty ever throweth
  O'er rustic life a charm;
Here peace will hover smiling,
  Secure from strife's alarm.

Where'er the farmer dwelleth,
  Neath thatch or lordly dome,
There peace, and joy, and beauty,
  Will ever find a home.

Then let us crown with honor
  The hardy sons of toil;
May Heaven bless with plenty
  The tillers of the soil!

East Weare, N. H.

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise. Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President*. B. S. Whitney, *Secretary*. Wm. Burtch, *Treasurer*.

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Farm and Stock for Sale.

THE subscriber will sell at auction, on the 10th of September next, (if not proviously disposed of at private sale,) his farm, situated in Westminster, Vt., containing upwards of 200 acres, nearly 100 acres of which is alluvial land of the most productive kind, lying on the bank of the Connecticut river. He will also sell at the same time, the live-stock of said farm, consisting of about sixty head of superior neat cattle, mostly Devons, thirty South Down sheep, and fifty swine of Suffolk, Middlesex and Essex breeds.

Among the Devon cattle, are one very fine bull, two years old, imported from England; another, seven years old, purchased of Geo. Patterson, Esq., of Maryland; another, one year old, bred on the farm. Several of the cows are pure Devons of the very best blood and quality, and the whole lot were either selected, or bred by the subscriber with great care. Of the South Down Sheep, six were imported—others were purchased of Hon. Daniel Webster and Col. J. M. Sherwood; and these, with their descendants, constitute the flock. The older swine were mostly imported, and comprise the best specimens of their respective breeds which could be obtained in England. Their stock has now become well known in this part of the country, and is so much esteemed as to need no praise here.

Boston, Mass., August 1—2t. WILLIAM STICKNEY.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR

Wire for Fences,

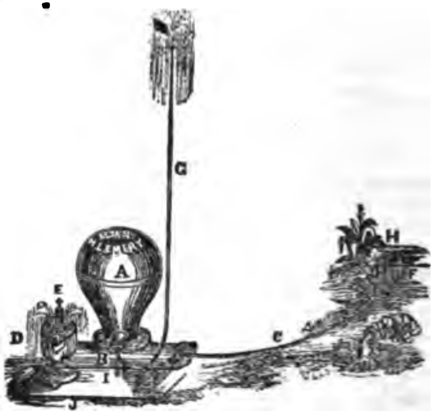
ALSO Staples ready made, by the pound, at price of wire and 4 cents per hundred staples for making, (machine made.)

Our Wire is of the best quality of iron, used by our Telegraph Companies, &c., which needs no annealing whatever, in being worked.

It is a fact acknowledged by all wire manufacturers, that the process of annealing iron wire opens its pores to the effect of the atmosphere, lessens its weight 12 to 15 per cent., lessens its tenacity for tension 33 per cent., and destroys its elasticity. Fence makers will find it much cheaper to use tough, bright wire, in all cases, even at one to three cents per pound extra, than the cheaper qualities of iron at their value, which require annealing to be used.

Nos. 7, 8 and 9, for 5½ cents; Nos. 10 and 11, for 6 cts per lb

August 1, 1850. For sale by EMERY & CO., Albany.



Hydraulic Water Rams.

THIS simple apparatus for elevating water from a spring or brook, has now been very extensively and favorably introduced, and enables the persons having a good spring of water below their buildings, to have a constant, never failing stream of water at any place desired, and so long as water will, of its own gravity, run down hill, so long it may, by this simple machine, be made to run up hill to any desired elevation. Full directions accompany each machine, enabling the purchaser to put them in operation himself, and all are warranted to operate satisfactorily. Price from $8 to $25. For sale, wholesale and retail, at the

Albany Agricultural Warehouse of
EMERY & CO.

Aug. 1, 1850. 369 & 371 Broadway, Albany, N Y.

Nurserymen's Agency,

187 *Water Street, New-York.*

THE business connected with this Agency, having increased beyond the expectations of the subscriber, he has taken the above more convenient and eligible store, and aided by experience, has prepared to meet the increasing demand upon his services.

He will import the coming season, a full supply of the following Stocks, Seeds, Trees, &c., &c, and solicits all his friends to send their orders *before the 20th of August*, to prevent disappointment.

He also tenders his services for the *purchase* or *sale* of anything in the business, and will give prompt attention to the receiving and forwarding any goods consigned to his care. Importations passed at the *Custom House*, the goods properly taken care of, and re-packed when necessary.

Imported 1st quality Stocks.

Quince,
Pear,
Mahaleb Cherry,
Paradise Apple,
Plum.

American Stocks.

Apple,
Pear,
Plum,
Cherry.

Imported specimen Fruit Trees, of any kinds required. from the best nurseries. Also,

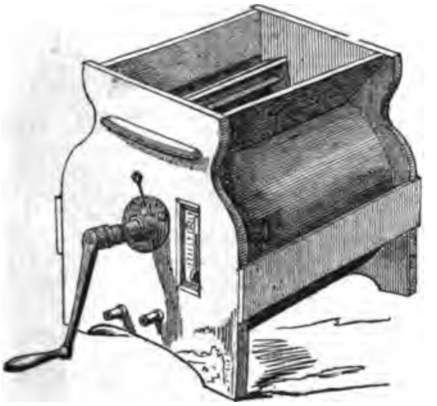
Norway Spruce,
Silver Fir,
Scotch Fir,
European Larch,
Juniper,
Mountain Ash,
English Elm,
Wytch Elm,
Chinese Arbor Vitæ,
Siberian Arbor Vitæ,
Irish Yew,
Hollys,

Minetta Rose Stocks,
Standard Roses,
Prize Gooseberries.
And *Seeds* of any kinds if ordered in good season. Also for *sale*.
2,500 Dwarf Cherries. Budded on the Imported Mahaleb Stock.
30,000 2 yr. Osage Plants.
Osage, Apple, and Pear seed.
Plum, Cherry and Peach pits.

100,000 two year old Buckthorn Plants, for hedges, very fine.
100,000 Black Mazzard Cherry Stocks.

Pruning and Budding Knives. Labels, Flower Pots, Propagating Glasses, Russia Mats, Twine, &c., &c., with any thing required in he business. GEO. G. SHEPPARD.

Aug. 1—1t. 187 Water St., New-York.



Compressing and Thermometer Churn Combined.

THIS combination and arrangement forms the best hand churn now before the public.

It has the Double Zinc Cylinders for facilitating the process of obtaining the proper temperature by means of hot or cold water, without mingling it with the milk and cream. A Thermometer is neatly set in one end to enable the operator to know the proper degree of temperature at which to commence churning. The bevel floats which have been before described, are used without any shaft through the churn, by having a dowel at one end, and a square socket at the other, which receives the end of the short crank when it is suspended and propelled. The crank has a groove turned in its round part to receive a pin, which pin drops into the groove when the crank is in its place. To wash and take out the butter, all that is necessary is to raise the pin and withdraw the crank far enough to relieve the dasher, when it is readily taken out.

They are manufactured and sold, wholesale and retail, at the lowest prices, (the cost being but trifling above Kendall's, of corresponding sizes,) by EMERY & CO.,

At the Agricultural Works, Warehouse, &c.
Aug. 1, 1850. Nos. 369 & 371 Broadway, Albany, N. Y.

To Farmers and Gardeners.

SEYMOUR'S GRAIN DRILL.—This DRILL, which was patented in September, 1849, is one of the latest improvements in Drilling Machines, and better adapted to the wants of the farmer than any now before the public. It sows or plants all kinds of grain and seeds, from peas, beans, corn and cotton, to the smallest seeds—and combines the advantages of sowing either broadcast or in drills. It is an excellent Broadcast Sowing Machine, when the drill teeth and conducting tubes, (which are very easily detached,) are taken off.

Many farmers soak their wheat in brine or other liquid, (in which the good seed sinks while the foul floats off,) for the double purpose of separating it from foul seed and rolling it in lime, plaster, or other fertilizing substances. This has the advantage over other drills, inasmuch as it performs well in sowing grain thus prepared, while *they* utterly fail in the attempt. Wet wheat, oats or white caps, which so readily clog other machines, are not serious obstacles in this. Those who wish to soak their seed for any purpose whatever, or mix with it any fine fertilizers, such as lime, plaster, bone dust, &c., and also those who prefer threshing with a flail, to avoid the injury done to the seed by threshing with a machine, will find this *the Drill for them.*

When drilling with this machine, the grain falls from the grain-box to the tubes, (a space of six inches,) in full view of the person attending it—so that, in passing over the field, he may be constantly assured that the seed is deposited as he designs. The teeth are all raised from the ground at once, with one lever, and the seed all stopped at once; or one may be raised at a time, and the seed it discharges stopped. The convenience and simplicity with which this machine is managed, is unparalleled. No necessary expense or pains have been spared in making it as desirable, in all respects, as possible; and after *many*, and the most *satisfactory experiments*—not in the winter on the floor of the machine shop merely, but in seeding time, with the farmer, under various circumstances, on rough and smooth, hilly and level, stony and clear land—the inventor (who was bred a practical farmer, and ought to know something of the farmer's wants,) feels assured that the machine is not only established on correct principles, but is got up in that simple and permanent style and good taste which cannot fail to suit all.

☞ The first premium for a Grain Drill capable of depositing fine manures with the grain, was awarded to this machine as the Fair of the New-York State Agricultural Society, held at Syracuse. in September. 1849. It also received the first premium at the Michigan State Fair, in 1849, and the first premium of the Ontario County Society.

The following facts will be duly appreciated by the intelligent farmer: 1st. A good drill deposites the grain nearly at a uniform depth. 2d The seed is *all* covered. 3d. It is left to come up in a small, shallow trench, with a ridge of earth on each side. 4th. One man and a team, with a good Drill, will put in as many acres of grain in a day, as three men and two teams, in the usual way of harrowing or plowing in after broadcast sowing. 5th. The ridges each side of the wheat protect it from the severity of the cold winter winds; and frequently the snow lodges on the wheat in these trenches, which would otherwise be left bare, and thereby greatly exposed to injury. "Last, yet not least," in that trying time for wheat—in the spring of the year—when alternately freezing and thawing once in twenty four hours, for days and sometimes weeks, frequently destroys the crop—these small ridges of earth are settling down and covering the roots of the wheat, and thus they *save* the crop from the destroying influences of the frost. From these facts, as well as from many experiments, we come to the following conclusions: 1st. That the saving in seed, should be a sufficient reason to induce every person to sow his grain with a Drill. 2d. That the saving in labor is also a good and sufficient reason for thus sowing it; and, 3d. That the protection from "wind and weather," derived from this mode of sowing, should be *quite a sufficient reason*, why every grower of winter wheat should sow it with a Drill.

SEYMOUR'S GARDEN DRILL

Is a small Machine, of suitable size to be drawn by a man. It is got up on the principles of the Grain Drill, and will plant peas, beans, beets and even carrots, or any kind of garden seeds, mixed with plaster, &c. It is very convenient for large gardeners, as it will sow five rows at once, as readily as the Garden Drills in common use will sow one, and is much less liable to clog. ☞SEYMOUR'S BROADCAST SOWING MACHINE supplied to order.

RECOMMENDATIONS.

A few certificates, from the most reliable sources, are subjoined:

Mr. Seymour—Sir: With the Grain Drill which I purchased of you this season, my son, a lad 16 years of age, has put in about 50 acres of wheat for me, and with some of it about a bushel and a half per acre of ashes and hen dung was mixed, and all to my entire satisfaction. He has also drilled in about one hundred acres for others, and I believe all are well pleased with the machine; and I must say I prefer it to any I have seen. IRA R. PECK.

East Bloomfield, Sept. 17, 1849.

Mr. P. Seymour—Dear Sir: You ask for my opinion with regard to the Wheat Drill I purchased of you this fall. Without specifying particulars, I would express my unqualified approbation of it over that of any other which I have seen in use. I am somewhat enthusiastic on the subject of drilling, believing it will soon be universally adopted by farmers. I would not willingly disparage the patents of other individuals. In haste, with great respect, yours, &c.

Gates, Sept. 10, 1849. CALVIN SPERRY.

This may certify that I have used Mr. Pierpont Seymour's Wheat Drill. and I consider it just the thing for putting in wheat.

Rochester, September 7, 1849. WM. OTIS.

Lancaster County, Pa.—We, the undersigned, have seen and examined the Seed Drill of Pierpont Seymour, of New-York State, in all its operations, and verily believe it to be the best we have ever seen, and will, we have no doubt, supercede all others now in use.

EDWARD LAMMEY, FREDERICK ZARRACHE,
JOHN HUDDERS, DAVIS ATKINS,
ROBT. W. HUDDERS, Mach., ELI ROBERTS,
WM. H. MILHOUSE, JAMES H. NOBLE.

Chester County.—We have also seen the operation of the above machine, and fully concur in the utility of the machine, and will, we have no doubt, when it becomes generally known and appreciated, supercede all other machines now before the public.

HENRY A. JOHNSON, REUBEN CHALFANT,
ENOCH L. TAYLOR, JOHN S. CARLILE,
CLOUD CHALFANT, EUCLIDES P. SHELTON
JOHN M. KELTON,

Mr. Seymour—Sir: I have used the Grain Drill I purchased of you to drill spring wheat. A part of the field I sowed broadcast. The appearance of the crop is now in favor of the part put in with the Drill. I have also used the Drill to sow field beets, and am satisfied that the seed can be distributed as evenly and expeditiously as any grain, which is at the rate of about ten acres a day. The Machine, by taking off the drill teeth, makes a good Broadcast Sowing Machine, which is valuable for sowing plaster, clover seed, and any grain a person wishes to sow broadcast. I believe the Drill and Broadcast Sowing Machine will soon come into general use.

East Bloomfield, June 1st, 1849. HARLOW MUNSON.

I have examined certain certificates in the hands of Mr. Seymour, in favor of his Grain Drill, one of them from Ira R. Peck. I am personally acquainted with Mr. Peck. His statements can be fully relied on. The other certificates, I have no doubt, are from equally reliable sources. I have myself heard the Drill spoken of in high terms of commendation, by farmers who have used it; and have also seen it in operation, and believe it to be at least one of the very best in use. I was present at the State Fair in September last, where the first premium was awarded to Mr. Seymour for his Drill I have the confidence that any statement which Mr. Seymour would be likely to make in regard to the Drill, would be strictly true.

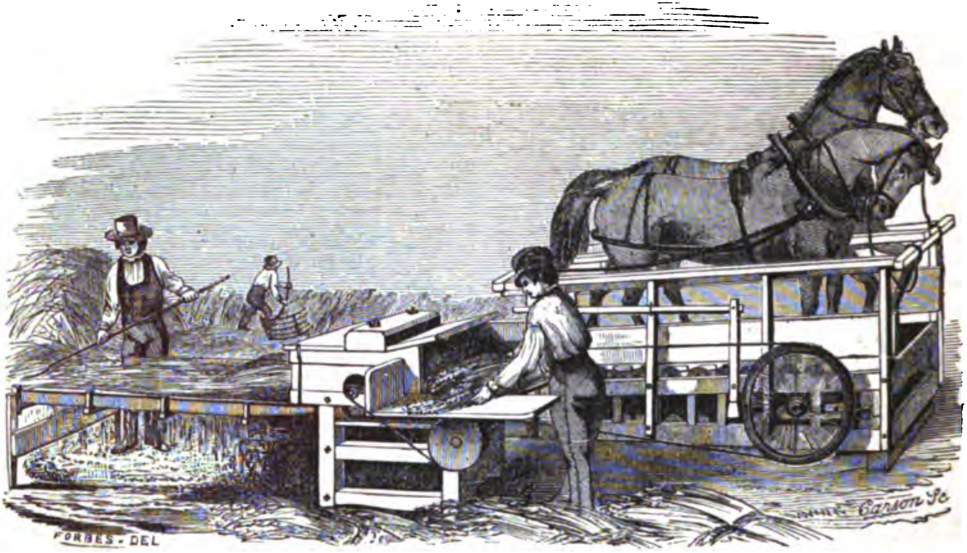
ISAAC W. MITCHELL,
East Bloomfield, Feb. 5, 1850. Justice of the Peace.

☞ Many other certificates of the same import have been received from many persons in this and other States, which are not deemed necessary to specify.

The subscriber tenders his thanks to his former friends and customers, and invites them, and all others desiring anything of the kind, to examine the above described Machines. ☞The right of either of the above machines can be had on such terms as to make it an object for manufacturers or dealers to purchase.

PRICES.—Price of Drill with 9 Teeth, $80; with 7 Teeth, $70. Garden Drill, $50. Broadcast Sowing Machine, $45.

PIERPONT SEYMOUR.
East Bloomfield, Ontario County. N. Y., Aug. 1, 1850— t.



EMERY & CO.'S
LATEST IMPROVED RAILROAD HORSE POWER, AND OVERSHOT THRESHING MACHINE AND SEPARATOR.

THE above cut represents this most useful machine, with the LATEST IMPROVEMENTS, ☞ *For which Patent is secured*, embracing some of great value and importance—which have suggested themselves from time to time as the various kinds made and sold by us have become worn, used and failed.

The most important of these consists principally in the mode of applying the power and motion from the endless platform to the shaft of the main Driving Pulley, and obtaining the necessary motion for the OVERSHOT THRESHING MACHINE, without crossing bands or intermediate gearings, and at the same time dispensing with the small pinions and cogs on the links of the endless platform,—thereby combining GREATER STRENGTH and DURABILITY with LIGHTER FRICTION, without the liability of breakage of links, or the wearing of links and pinions,—(no small item in the expense of repairs in most other kinds of powers in use.) The farmer or mechanic is enabled to perform a greater amount of work, or to operate with less power or elevation, as best suits his wishes.

Having been long engaged in the Manufacture, Introduction, Sale, &c., of the various kinds of Horse Powers, for different purposes. and at all times adopted such improvements as from observation and experiment have seemed necessary and desirable, we feel confident that in this Power, as now manufactured, all that can be desirable, is found to a greater extent than any heretofore sold by us, or with which we are acquainted. They were introduced to some considerable extent last season, and wherever used side by side with the most approved Powers of other kinds, have given unqualified satisfaction, and been preferred.

The Overshot Threshers and Vibrating Separators, with improvements, have been sold with like success as the Powers. They admit of a level feeding table, thus avoiding accidents, (which often occur with the inclined feeding board,) by preventing hard substances, Sticks and Stones from getting into the Machine and breaking Spikes, endangering those engaged with them. The Cylinder Shaft, (of Cast Steel,) runs in Bronze Boxes, which are so made of two parts as easily to be adjusted when worn loose, and can with little trouble, always be kept tight. The speed of the Power is such that a larger pulley is used on the Thresher than on most others—driving stronger, with less liability of slipping of Bands, which last are made of Vulcanized India Rubber. The Separator makes a complete separation of Grain from the Straw, leaving it in the best condition for the Fan Mill; thus saving the labor of several men, and doing the work better.

Fan Mills of various sizes, for Hand, or fitted to be driven by the Power, at same time of threshing. Also, Saw Mills in complete order.

The Double Horse Power is capable, with 3 or 4 men, of threshing from 125 to 200 bushels of Wheat or Rye, and the Single one from 75 to 100 bushels, or double that quantity of Oats per day. They are warranted to perform as above, or may be returned to us or our Agents, of whom they were purchased within 3 months, and the purchase money refunded.

They may be had in Rochester, Buffalo, or any of the principal ports on the lower or upper lakes, by adding transportation.

Good agents will attend to the sale of them in those places.

The prices will be, for Single Powers,..........	$85 00	
" Thresher and Separator,............	35 00	
" Bands, Wrench, Oil Can, extra pieces,	5 00—	$125 00
Best Double Machines, Complete, ($25 more on,)		150 00
Fan Mills, from......................	$22 to $28	
Saw Mill, complete..................	$35	
Also "Wheeler's" Machines, improved this season,		
Single Setts, complete,.........................		$120 00
Double do. do.		145 00

Terms Cash, or approved Notes or Acceptances, with Interest.

To good Agents in new locations liberal terms will be given.

For further particulars, see new issue of Catalogue, or apply personally or by letter at the

Albany Agricultural Works, Warehouse and Seed Store, of
EMERY & CO.
August 1, 1850. 369 & 371 Broadway, Albany, N. Y.

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G. EMERSON, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

" We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed in premiums by Agricultural Societies. How much better, and in better taste, than the amount of its cost in money."—*J. S. Skinner.*

Sold by L. TUCKER, Albany; A. HART, Philadelphia; DERBY & Co., Buffalo; W. D. TICKNOR & Co., Boston; and the principal booksellers in the Union. Price $4. (Cost of the imported work in 1 vol. *without any plates*, $14.) July 1—tf.

Full Blood Berkshire Pigs.

THE subscriber offers for sale a fine lot of young Boars and Sows, at prices from $2 to $4. The boar they were raised from took took the first premium at the Buffalo Fair. R. B. HOWLAND.

Union Springs, July 1, 1850—2t.

Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.

July 1, 1850—tf. A. S. BABCOCK.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices.
Z. HOSMER,
April 1, 1850 —6t. 110 Milk St., Boston.

Circular.

THE subscribers are making and vending J. W. SHERMAN'S

New Seed Drill and Broadcast Sower,

Constructed upon a new principle; cheaper, simpler, and more *durable and accurate*, than any similar machine now in use.

We are building three different qualities of these machines. No. 1, is a superior Drill and Broadcast Sower, and will sow fine Manure (such as Plaster, Ashes, Guano, &c.,) *Broadcast*, or in the drill rows, any desirable quantity per acre, at the same time of drilling in the grain. It is well finished, substantially made, of good material, and *warranted*—at the low price of $65.

No. 2. is built for drilling all kinds of grain. It will also sow fine manure, broadcast, on crops. Price $55.

No. 3, is a plain Wheat Drill; simple, accurate, substantial. Price $45. *None of our machines will clog in the runs*; they cannot do so with the most difficult kind of seed; THE DISTRIBUTING PRINCIPLE BEING ENTIRELY NEW.

We are prepared to supply all orders. Those wishing to purchase drills, would do well to see ours before purchasing elsewhere. The sooner the order is given, the more sure you will be of getting your Drill in time.

N. B.—Persons wishing to make or sell our Drills, are offered a good chance.

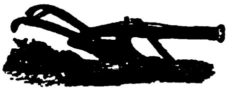
A large descriptive bill will soon be issued with cuts. All communications or inquiries [post paid,] will receive prompt attention. Address Sherman, Foster & Co., Palmyra, Wayne county, N. Y. Those wishing it, can see the machines at Foster, Jessup & Co's Machine shop, Palmyra; where they will also find the best Thresher and Separator, Revolving Horse-rake, (spring teeth,) wheel Cultivators, and other agricultural implements; warranted superior. *Call and see.*

Mr. SHERMAN is agent for the sale of McCormick's Virginia Reaper. SHERMAN, FOSTER & CO.

Palmyra, June 1, 1850—2t.

Agricultural Warehouse and Seed Store.

No. 197 Water street. (near Fulton,) New-York.



THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

THE HORTICULTURIST,

AND

Journal of Rural Art & Rural Taste.

EDITED BY A. J. DOWNING,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

TO all persons alive to the improvement of their gardens, orchards or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "FOREIGN NOTICES" present a summary from all the leading Horticultural Journals of Europe; the "DOMESTIC NOTICES," and ANSWERS TO CORRESPONDENTS, furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest and most valuable works on either side of the Atlantic.

THE FIFTH VOLUME OF THE HORTICULTURIST will be commenced on the 1st of July, 1850. All or either of the back vols. can be supplied. New subscribers will be furnished with the first four vols. for $10.

TERMS—Three Dollars per year—Two copies for Five Dollars. All payments to be made in advance, and orders to be post paid.

☞ All Agents for THE CULTIVATOR, and Post Masters generally, are invited to act as Agents for THE HORTICULTURIST.

LUTHER TUCKER,

Albany, June, 1850. *Publisher Cultivator Office, Albany, N. Y.*

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

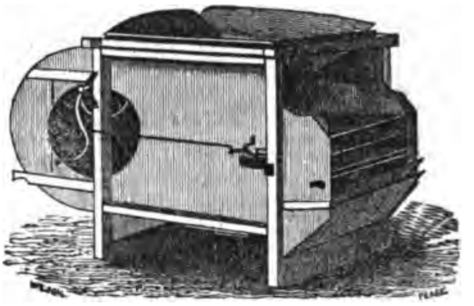
June 1. 1850—4t.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion. now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,

Walpole, May 1—5t.* Agent for the Proprietors.

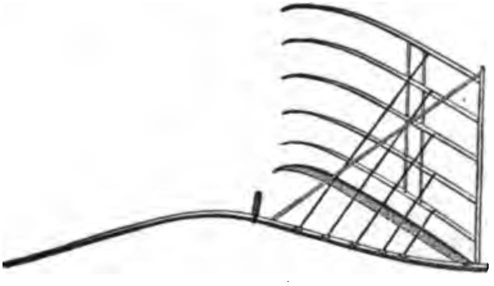


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s. published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers. and highly approved. One farmer. it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.

Junction P. O., Rens. Co., 8 miles north of Troy

May 1, 1850—tf.

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Agricultural and Horticultural Implements, and *Field and Garden Seeds.*

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment.

A. B. ALLEN & CO.,
August 1, 1850.—tf. 189 & 191 Water St., New-York.

Allen's Improved Portable
Railroad Horse Power, Thresher and Separator.

THE advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motion of the horse and machine by means of a brake, by which accidents are avoided. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c. drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain, but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator*, high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact, and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power, ...	$60
" " Thresher, ...	$28
" Separator and fixtures, ...	$7
" Bands for driving, etc., ...	$5
" Wood-sawing machine, complete, and in running order, ...	$35
Price of double Power, ...	$100
" with Thresher, Separator, &c., ...	$145 to $150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

A. B. ALLEN & CO.,
Aug. 1—2t. 189 & 191 Water Street, New-York.

Choice Sheep for Sale.

THE subscriber having determined to quit the farming business, offers his entire flock of Sheep for sale. They have been bred with great care for over 20 years, with a view to make them heavy and fine.

They now shear three and a-half pounds per head, and the wool sold last year, at the Kinderhook Depot, for 47 cents per pound. Specimens of them will be at the State Fair.

Also, one Imported Ayrshire Cow, with her last two calves, both heifers.

DANIEL S. CURTIS.
Canaan Center, N. Y., Aug. 1—2t.

Albany Burr Mill Stone Factory.

ADAM R. SMITH, (late of Troy,) having located at the Corner of Broadway and Quackenbush streets, (three blocks above the Delavan House,) Albany, N. Y., invites the attention of Mill-wrights and others to the stock on hand, which, with his facilities for manufacturing, must render it advantageous for them to call upon him before purchasing elsewhere.

He keeps also, a large supply of Bolting Cloth, Screen Wire, Plaster of Paris, and other articles used in Milling, which will be disposed of on liberal terms.

August 1—3t.*

Great Sale of Short Horn Cattle.

THE subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Duchess Co., New York, about 35 head of Short horn cattle, including cows, heifers and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it;, and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day, and made 15 pounds 3 ounces of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, who will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Short horns—was calved in June, 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,) out of Jessamine, by Commodore, (3,452)—Flora, by Belvidere, (1,706)—Jessey, by Belvidere, (1,706)—Cherry by Waterloo, (2,816) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first rate judge of Shorhorn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow red, which is a bright red with a fine golden or saffron undertinge, arising from a rich yellow skin. He *is* the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees, without any alloy or Galloway blood, back to pure Shorthorns, for upwards of *two hundred years*; a matter of no small consideration to those who wish a *superior fresh cross*.

Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

Southdown Sheep.—A choice flock of this superior breed of mutton sheep, will be sold on the same day as above.

Suffolk Swine.—One boar and several breeding sows and pigs, of this fine breed of swine.

Working Oxen.—A handsome pair of red working oxen.

A. B. ALLEN, 189 Water st., New-York
June 1, 1850—3t.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, SEPTEMBER, 1850. VOL. VII.—No. 9.

Nutritive Properties of the Apple.

THAT apples are valuable as food for animals, is now generally acknowledged, and their use for this purpose has, within a few years, been greatly extended, though it is probable that their relative value compared with other articles is but little understood. Few exact or reliable experiments have been made in feeding apples to animals, and we are not aware that much light has been thrown upon the subject by chemical investigation, till the late analyses of Dr. J. H. SALISBURY.

The late PAYNE WINGATE, of Hallowell, Maine, made some experiments in feeding pigs with apples compared with potatoes. Both the apples and potatoes were boiled, or rather stewed, separately, and about four quarts of oat and pea meal mixed with each bushel, at the time the cooking was finished—the meal being intimately incorporated with the potatoes and apples while they were hot, and the mass left to ferment, slightly, before it was fed to the pigs.

Two pigs of the same litter, and as near as practicable of the same weight, were taken; one was fed for a week on a given quantity of the cooked potatoes per day, and the other on the same quantity of apples. At the end of each week the pigs were weighed, and the food was reversed—the pig to which potatoes had been given, was fed with apples, and the one which had received apples was fed for the next week on potatoes. This course was continued through several weeks—the food of each pig being changed every week. The result was, that the apples proved to be fully equal, or somewhat superior to the potatoes. In this instance the apples were mostly sweet, and they, as well as the potatoes, were nearly in a ripe state.

On another occasion, Mr. W. experimented with sweet, compared with sour apples, in various ways. He found that when they were fed *raw* to swine the sweet apples were preferable—the animals ate them better, as the sour apples seemed to make their teeth sore;—but when both were cooked and mixed with meal in the way above described, there was no difference in the gain produced by an equal quantity of each. It should be stated, however, that all the apples used were of palatable kinds, nearly ripe; and that unripe, and ill-flavored apples are known to be less relished by stock, as well as less nutritive. It is probable, also, that when sour apples are eaten raw, and in considerable quantities, the animal may take into the stomach too large an amount of acid, which may tend to derange the digestive organs. This objection would be chiefly obviated by cooking, and the saccharine fermentation, by which the pulp loses much of its acid and becomes nearly sweet. It does not appear from analysis, that the amount of actual nourishment is much greater in sweet than in sour apples. (See comparison of the analyses of the Roxbury Russet and Tolman Sweeting.)

Mr. Wingate practiced fattening swine for several years, on food composed principally of apples. The animals attained good weights, and the pork was solid and of excellent quality. In other instances, we have known apples fed raw to horses, cows, and other stock through the winter, with much advantage. For using in this way sweet apples would probably be best, and they should be such as will keep till spring. They may be stored in a cellar under the barn, or in the bottom of the hay-mow,—a proper place having been left for that purpose when the hay was put in. They will be more likely to be injured by heating, than by freezing. They will seldom freeze in such a situation as is mentioned; and if they should be touched by frost, their nutritive properties will not be much lessened, if they remain in a dark place, and where they will thaw slowly.

A peck of apples a day, fed to a cow, has been found to add more than a quart to the daily quantity of milk, besides greatly increasing its richness, as well as improving the condition of the cow. The effect of apples is equally favorable to other stock. Horses fatten on them, and their coats assume a brilliancy which hardly any other food will give them. For all stock they answer a similar purpose as vegetables, in preventing costiveness, which is likely to ensue from the exclusive use of dry food; and in this way, and by the nutriment they contain, they contribute much to the animal's thrift.

An impression prevails that apples will dry up the milk of a cow. This idea has been imbibed either from the effect produced on a cow by eating a very large quantity of apples at once, by which surfeit and fever were brought on, or from the trial not being properly conducted till the animal had become habituated to the food. The ill effects attributed to apples would have occurred with any other rich food, as any kind of grain, potatoes, or other vegetables.

A fair average product of an acre of orcharding, in good bearing condition, may be estimated at two hundred to three hundred bushels a year; and at this rate, we doubt whether so great an amount of animal nourishment can be obtained from the same extent of land, in proportion to the expense, by any other crop. We should not hesitate, therefore, to recommend the cultivation of the apple as food for stock.

It will be interesting to compare the result, obtained by Mr. Wingate in feeding swine with apples, with the results of the analyses made by Dr. Salisbury, and in doing this, we shall find a more general correspondence than would, perhaps, have been anticipated. The fat producing properties of the apple, according to the analyses, do not essentially differ from those of the potato, though the apple has the advantage of containing a greater proportion of nitrogenous matter.

Dr. S. gives the inorganic and organic analyses of six different kinds of apples, viz: Tolman Sweeting, Swaar, Roxbury Russet, R. I. Greening, Kilham Hill. We extract the table showing the *mean* of those analyses, as follows:

Inorganic or ash analysis.

	With carbonic acid.	Without carbonic acid.
Carbonic acid	15.210	......
Silica	1.362	1.637
Phosphate of Iron	1.336	1 593
Phosphoric acid	11.252	13.267
Lime	3.442	4.199
Magnesia	1.400	1.669
Potash	31.810	37.610
Soda	20.810	24.799
Chlorine	1.822	2.169
Sulphuric acid	6 062	7.229
Organic matter thrown down by nitrate of silver	4.890	5.898
	99.396	100.000

Proximate, or organic analysis of the same varieties.

	1000 parts of fresh apple.	1000 parts of dry apple.
Cellular fibre	32.03	190.879
Glutinous matter with a little fat and wax	1.94	11.463
Dextrine	31.44	186.805
Sugar and extract	83.25	497.627
Malic acid	3.17	19.585
Albumen	13.79	83.720
Casein	1.64	9.921
Dry matter	167.26	1000.000
Water	826.64	......
Loss	6.10	......
	1000.000	......

Dr. S. observes, that the analyses were calculated both with and without the carbonic acid. It was necessary that they should be calculated without it, in order to show the real composition of the organic matter of the fruit. "The carbonic acid is formed during the combustion of the organic matter, and hence cannot be regarded as a constituent part of the apple, except in very minute quantity."

An interesting comparison of the properties of a sweet and sour apple, is given in the following table, showing the results of the organic analyses of the Tolman Sweeting and Roxbury Russet:

	TOLMAN SWEETING.		ROXBURY RUSSET.	
	1000 parts of fresh apples.	1000 parts of dry apples.	1000 parts of fresh apples.	1000 parts of dry apples.
Cellular fibre,	33.90	190.620	31.20	173.623
Glutinous matter with a little fat and wax,	3.52	19.793	1.70	9.460
Dextrine,	28.96	162.890	36.22	201.558
Sugar and Extract,	99.05	557.178	90.27	502.337
Malic Acid,	2.50	14.061	3.23	17.975
Albumen,	8.97	50.452	15.03	83.639
Casein,	0.89	5.006	2.05	11.408
Dry Matter,	177.79	1000.000	179.70	1000 000
Water,	815 20	....	813.45	
Loss,	7.01	....	6.85	
	1000.00	....	1000 00	

These analyses were made in the months of March and April, and excepting the Tolman Sweeting, which was rather shriveled, the varieties were in good eating condition. Dr. S. observes that besides the substances above mentioned, the apple contains a small quantity of tannic and gallic acids; the proportion being greater in the russets than in any other varieties examined, and that to those acids is owing the astringency so striking in some kinds, and which is easily detected by the black color given to a knife or any iron substance when thrust into them. In conclusion he offers the following useful observations:

The ripe apple is rich in sugar and a body analogous to gum, called *dextrine*, which has the same composition as starch; but differs from it in being soluble in cold water, and not colored blue with iodine. It derives its name from the action of its solution on polarized light, it causing the plane of polarization to deviate to the right; hence its name —*dextrine*.

Dextrine and gum should not be confounded with each other. They differ very materially in many respects. The former possesses the property of being converted into grape sugar by sulphuric acid and by diastaste, while the latter does not. Dextrine belongs to the class of bodies which are susceptible of nourishing the animal body. All the starch taken as food is converted into dextrine before it is assimilated by the system. The acids of the stomach possess the property of converting starch into this body.

In the fresh apple, 100 lbs. contain about 3.2 lbs. of fibre; 0.2 of a lb. of gluten, fat and wax; 3.1 lbs. of dextrine; 8.3 lbs of sugar and extract; 0.3 of a lb. of malic acid; 1.4 lbs. of albumen; 0.16 of a lb. of casein and 82.66 lbs. of water.

In the dry apple, 100 lbs. contain about 19 lbs. of fibre; 1.1 lbs. of gluten, fat and wax; 18.7 lbs. of dextrine; 49.8 lbs. of sugar and extract; 2 lbs. of malic acid; 8.4 lbs. of albumen, and 1 lb. of casein.

In the fresh potato, 100 lbs. contain about 9.7 lbs. of starch; 5.8 lbs. of fibre; 0.2 of a lb. of gluten; 0.08 of a lb. of fatty matter; ¼ of a lb. of albumen; 0.45 of a lb. of casein; 1.27 lbs. of dextrine; 2.64 lbs. of sugar and extract, and 79.7 lbs. of water. In the dry potato, 100 lbs. contain about 48.5 lbs. of starch; 29 lbs. of fibre; 1 lb. of gluten; 0.4 of a pound of fatty matter; 1.25 lbs. of albumen; 2.25 lbs. of casein; 6.32 lbs. of dextrine; and 13.2 lbs. of sugar and extract.

By comparing the composition of the apple with that of the potato, it will be noticed: First, That the former contains, according to the above analyses, about three per cent more of water than the latter. Second, That dextrine and sugar in the apple take the place of starch, dextrine and sugar in the potato. Of the former, 100 lbs. of good fruit contain of dextrine, sugar and extract 11.4 lbs; the latter has, in the same amount of fresh tubers, 13.61 lbs. starch; dextrine, sugar and extract, 68.5 lbs; in the same quantity of dry potato, there is of starch, dextrine, sugar and extract, 68.02 lbs. The above proximate principles are the main bodies in the apple and potato which go to form fat. In the aggregate amount then of fat producing products, it will be seen that the apple and potato do not materially differ. It would be natural, however, to infer that 50 lbs. of dextrine and sugar would, if taken into the system, be more likely to make a greater quantity of fat in a given time, or at least to make the same amount in a shorter period, than an equal weight of starch, for this reason, that the two former bodies, although nearly the same in composition with the latter, yet are physically farther advanced in organization, and hence probably approximate nearer the constitution of fat. If this view be taken, then the apple, if of good quality, may be regarded equally if not more rich in fat producing products than the potato. Thirdly, that the apple is richer in nitrogen compounds than the potato; 100 lbs. of fresh apple contain of albumen 1.38 lbs.; the same amount of fresh potato has ¼ of a lb.; 100 lbs. of dry apple contain 8.37 lbs. of albumen and an equal weight of dry tubers has 1¼ lbs.; 100 lbs. of fresh fruit contain of casein 0.16 of a lb., and an equal weight of fresh tubers, 0.45 of a lb.; 100 lbs. of dry apples have 1 lb. of casein, and the same amount of dry potato contains 2¼ lbs. Hence it will be observed that 100 lbs. of fresh apple contain of albumen and casein, 1.54 lbs.; and the same quantity of fresh potato 0.7 of a lb.; 100 lbs. of dry fruit have of albumen and casein 9.37 lbs., and an equal amount of dry tubers, 3.50 lbs.

From the above it will readily be seen that in albumen the apple is richer than the potato, while in casein the reverse is the case. That the aggregate amount of albumen, casein and gluten in good varieties of the apple is more than double that of the same bodies in the potato; hence the former may be regarded richer than the latter in those bodies which strictly go to nourish the system, or in other words, to form muscle, brain, nerve, and in short assist in building up and sustaining the organic part of all the tissues of the animal body.

Foreign and Domestic Wool.

Eds. Cultivator—This article, on the subject of foreign and domestic wool, may not be without its use, at a time when all engaged in the most prominent departments of business, appear to be zealously engaged in devising ways and means to advance their own prosperity, and when, also, every journal that meets the eye, with the exception of those devoted "*exclusively*" to the cause of religion and letters, by its able and studied articles, shows the energy. talent and capital employed to accomplish this worthy end. Certainly it cannot be considered a departure from their excellent example, if the wool grower, aroused by these circumstances to activity and vigilance, presumes to say a word in his own behalf, and to notice some of the obstacles in the way of his prosperity.

In 1841-2, I had the honor to address to the public a number of articles on this subject, which, from the importance and novelty of the facts disclosed, found their way into the public journals, and are said to have had something to do with destroying free trade in wool—practiced by an ingenious application of the maximum principle, which in 1841, admitted out of an importation of 15,000,000 pounds of foreign wool, 14,500,000 duty free.

This effort will, at least, appear pardonable, if we but for a moment glance at the vast pecuniary importance of the wool growing interest in the United States, in connection with the fact, that fine wool is now imported, subject to, upon an average, a duty of two cents per lb only—which I will hereafter explain.

The manufacturers of Boston and its vicinity, stated, (in their memorial to Congress prior to 1843,) the amount invested by wool growers of the U. States, to be $240,000,000, and Ex-Gov. Slade, of Vermont, in Congress in 1842, said the whole amount invested in sheep husbandry in the United States, exceeded $200,000,000. This is more than three times as much as the whole investment in cotton and woolen manufactures. Let us look into details a little, to see where we stand. By the census of 1840, there were about *twenty millions* of sheep in the United States, (I take it at this for convenience, though the return falls a fraction short.). Now, if we suppose our flocks to have increased 10 per cent per annum, since 1840, the number of sheep in the United States, in 1850, must be 40,000,000 at least, worth $80,000,000, and our last annual clip worth from $30 to 35,000,000, it being from ninety to one hundred million pounds. Three or four sheep will certainly require, for summer and winter keep, one acre of land, upon an average—so thirteen million acres of land are required for the support of all the flocks in this country, and at the moderate estimate of $15 per acre, including buildings, fences and fixtures, worth $195,000,000, saying nothing about labor expended in the care of sheep. We have the aggregate amount now invested in this department of industry:

In sheep....................	$80,000,000
" land....................	195,000,000
Total................	$275,000,000

Good judges say the lands, &c., should be estimated as high as $20 per acre, and the sheep higher than I have above estimated them; and 10 cents a head per year, added to the above total amount, for the investment in labor for tending, feeding, shearing, &c.

It should be remembered that a cent a pound on our annual clip of wool, makes the odds to our wool growers of $900,000, and I have no doubt that our own wool is depressed in the market 10 cents per lb., by too free importation of rival wools.

Wool growing has been more profitable under the Tariff of 1846 than it would have been, had that of 1842 continued, yet it has not been sufficiently so to prevent farmers in some sections killing off their flocks of fine wooled sheep—in some sections substituting the dairy, in others, the long wooled breeds, in the expectation (mutton and lambs being in demand) of finding their reward.

This has been occasioned by the immense importation of foreign fine wool, principally from South America, east of the Andes, where *nature does every thing, and man comparatively nothing*, in the production of wool. The whole amount of wool imported in 1844, was 23,800,000 lbs., and in 1845, 28,800,000. (I take this as stated in an article in the Jan. No. of the Plough, Loom and Anvil.) A large proportion of all this wool comes from Buenos Ayres, or the Argentine Republic, and the adjoining States; the finest wool-growing region in the world, where flocks of thousands and tens of thousands, belonging in many instances to enterprising foreigners, graze the year round, roaming over vast and almost interminable plains of the richest pasturage, yet of little value compared with our pasture lands, in a climate the most favorable, where the sheep is less subject to disease than with us, and sustained at an expense of land and labor vastly below that of any portion of the United States.

I will here annex a description of such foreign wools as are generally imported into the United States, their cost abroad, and such facts in relation to each as may be important to those interested, making a distinction between the *fine and native wools*, which supplant our domestic wools in the market, and the *coarse hairy wools* which do not, but can only be used in connection with our own coarse long wool, or foreign, the hairy being used for filling in the coarsest and cheapest fabrics. The latter, (the hairy wool,) is not so much imported as it would be, because, as it appears from the official reports, it costs as much abroad as the fine and native wools, which rival our own. A dollars worth of fine wool will produce a fabric of about three times the value of that made from a dollars worth of hairy wool, therefore, practically, the duty on the hairy wools, is three times as high as the duty on the fine wools, which rival our own; three times as much coarse being required to make a square yard of carpets, as of fine to make a square yard of a fine plaid shawl, in the manufacture of which the fine wools of South America, east of the Andes, are used to the exclusion of domestic wool of all grades, such as cloths, cassimeres, &c.

1st. Buenos Ayres' native Mestizo, or grade wools and Merino.

These wools bear the general character of the wools east of the Andes. I have fair samples before me, which successfully compete with every grade of wool grown in the United States, some of which I send you with this article.

The Buenos Ayres wools are generally imported unwashed, very dirty and burry. The fine, wastes from 60 to 70 lbs. to the 100 lbs. in washing and burring, and comes to the cards 15 *cents per lb. cheaper than our own wools of the same grade.* The expense of burring is about three mills per lb. *I have these facts from a most reliable and intelligent source.* From Buenos Ayres, (or the Argentine Republic,) we imported in 1848, 4,307,428 pounds of wool, which cost there $267,419, or about 6¼ cents per lb. This was over one-third of our whole importation that year. As long ago as 1835, great efforts were made to improve the native sheep in this region. In 1837-8, 1,100 Merino rams and ewes were imported into Buenos Ayres alone, (saying nothing of the adjoining States, where similar improvements were in progress,) under the direction of enterprising foreigners. The natives, stimulated by their example, and encouraged by resident agents of foreign and domestic manufacturers, commenced the improvements of their flocks by crossing them with the Merino, and have now made such progress in the production of fine wool, as to render it impossible for our wool growers to compete with them, under the present tariff of 30 per cent on their wool, which amounts to two cents per lb., and about 15 per cent on its value here, (all expenses being paid,) compared with that of our own domestic wool.

Indeed, one of the largest woolen manufactories in the country, which uses near two million pounds of wool per annum, a few years ago used almost exclusively domestic Merino and grade wools, now uses *as exclusively* the fine wools of the eastern part of South America. But a few years ago, this establishment alone paid about $300,000 in one year for wool in the western part of Pennsylvania, and now it buys little, if any, domestic wool, but has since bought cargoes of Mestizo wool from this section of South America, and within twelve months, I was informed by one of its agents, that they were not *using a pound of domestic wool.*

By examining, carefully, the official reports of the importations of wool from different countries, the fact will be fully established, that the wools grown in South America, east of the Andes, being all rival wools, cost not more abroad than the coarse hairy wools of Crimea, Smyrna, Syria, Africa, Chili, or Valparaiso.

The native wool of Buenos Ayres is much like, in the fibre, our common wool, perhaps not quite so soft; the fibre has a spiral curl about it, which distinguishes it from hairy wool; it takes color well; is generally dirty and burry when imported, wastes from 40 to 50 per cent in washing, and from 10 to 15 per cent in burring. It is used generally for all purposes where our common and coarse wool would be used, and comes to the cards, relatively, as much cheaper as the Mestizo. Our own river washed wool wastes before coming to the cards, about 20 to 25 per cent.

Entre Rios, Rio Grande, Monte Video, wools are about the same quality, generally imported burry and washed. They waste in rewashing and burring from 30 to 35 per cent. Cordova wool is grown about 700 miles back from Buenos Ayres, in a mountainous country, and it is free from burrs. It is generally imported unwashed—wastes about 50 per cent in coming to the cards, and is probably the best long wool imported from South America. It is longer in the fibre than my sample of Leicester or Bakewell wool from Ohio; not so long as my Lincolnshire, or as soft as either, but would be used generally for similar purposes, principally for worsted goods.

The Chilian or Valparaiso, is a long, coarse, hairy wool, imported free from burrs and dirty, wastes about 50 per cent before it comes to the cards, and is manufactured into the coarsest and cheapest goods, such as could not be made exclusively out of any grade of our wool, on account of the expense. The coarser part of the fleece, is often from 14 to 18 inches long, and very different from the wool grown on the opposite side of the Andes, and the vast pampas between them and the Atlantic.

The coarser part of the fleece, resembles more the hair on the extremity of cattles' tails, than any wool grown in the U. S. From the nature of the country and the character of the people, there is little ground to hope that such improvement will ever be made in the flocks as on the east side of the mountains, where single individuals often own from 40 to 100,000 sheep, roaming the year round over vast and fertile plains, the richest grazing region in the world, with little trouble or expense to their owners, except to shear and properly crop them. The shearing is often omitted, the wool not being worth the trouble when labor is scarce and high.

The Peruvian wool is long, coarse and hairy. It is imported unwashed, and wastes about 50 per cent in coming to the cards. The samples I have are shorter in the staple than the Chilian, free from burrs but dirty. This wool is used for the same purposes as the Chilian. Both the last named wools cost abroad, in 1846, according to official reports, made up from invoices filed at the custom houses under the oaths of the importers, the same as the Buenos Ayres and the adjoining States, from 6 to 7 cts. per lb.

The African and Syrian wools have a general resemblance. They have a reddish color, occasioned by the sands of the deserts being blown into them. They are coarse, harsh and hairy—about as long in the staple as our Bakewell, and are brittle. They are used principally for filling to negro cloths and carpets. They are spoken of in price currents, as Syrian, Bengazi, Mogadore and Barbary wool.

The Scotch black faced laid wool, is imported in small quantities. An immense quantity of it is grown on the Highlands. The sheep upon which it grows is hardy and thrives where the more delicate races would die, and makes the best of mutton when well fatted. Upon this wool the English carpet manufacturers draw for a large portion of their supply at about 7 cents per lb., free of duty, and thus they are enabled to hold in check and defeat the prosperity of our domestic carpet manufacturers.

The sheep are not housed on the Highlands, and for protecting them from the effects of the weather and storms, they are covered with a preparation of tar and grease, well rubbed on the fleece. The unlaid wool is from the same kind of sheep, on the south side of the Highlands. This sheep is housed in cold weather. The laid wastes about 40 and the unlaid about 15 per cent on coming to the cards.

The nearer wool approaches hair, if it will take colors, the better it is for carpets, because it is more elastic, retains the dirt less, and sweeps better. The coarse hairy wools of a brittle staple, are generally used for filling the carpets and negro cloths. With this cheap material for filling, carpet manufacturers could afford to buy our own coarse long wool for warps, but inasmuch as by official returns, (the importation from Crimea and Buenos Ayres, for example,) this pays three times as much duty as the fine, according to what it will produce in money when manufactured; the carpet business is retrograde, and the demand for our coarse long wool of strong staple, very much curtailed, for it is a fact worthy of the greatest consideration, that in proportion as the coarse, brittle, hairy wool is imported for filling, (if foreign long wool is not imported for warps) a demand is at once created for our domestic long wool.

Smyrna, Salonica, and Adrianople wools, are coarse and hairy, rather harsh; staple of medium length. They are imported, washed and unwashed, and waste, in cleaning for the cards, from 40 to 50 per cent, and cost abroad about the same as the best wool east of the mountains in South America.

Crimea wool, grown in the south of Russia, and imported limed and unlimed from Crimea and the Black Sea, is free from burs, and wastes from forty to sixty per cent. Calcutta wool is much the same thing, both resembling dog's hair, more than any wool grown in this country. It is used for filling to carpets, &c.

Cape of Good Hope wool is mostly imported on the skins, called hair skins, which are valuable to, and eagerly sought by morocco dressers. The wool or hair, on nine-tenths of them, is of no value, except to masons. It will not dye or take colors. The native sheep is very large.

In taking this general survey of foreign wools, with their bearing upon the sheep husbandry of the United States, the conclusion to which I have arrived is, that all wools grown in the United States are depressed in the market from six to ten cents per lb., by the present importation of foreign *rival* wools, principally grown in eastern South America. Considering the fact that a cent a lb. on our annual clip, makes the odds to our wool growers of $900,000, this is a matter for grave consideration; and that if Congress remodels the present tariff, they should put a duty high enough on foreign *rival* wools to give our domestic wool an equal chance with them in our own markets. The immense amount invested in sheep husbandry, the little attention Congress has ever given to the agriculture of the country, and the little aid they can ever render it, under any tariff, justify the farmer in demanding of Congress, in tones not to be mistaken, substantial relief from this ruinous competition with foreign wool. A duty on any of his products, except wool, (say butter, cheese, beef and pork or grain) is as useless as a duty on ice; but that on wool is a *vital matter*. Will it be overlooked, if the tariff be remodified? *Nous verrons*. H. C. Meriam. *North Tewksbury, Mass. June* 25, 1850.

P. S.—Since I wrote the above article, I have received from Washington the report of the commerce and navigation of the U. S. for the last fiscal year, from which I take the following:

The importation of foreign wool, the last fiscal year, amounted to 17,869,022 *pounds, and cost abroad, as invoiced*, $1,177,347, that is at an average *price of less* than 7 cents per lb. Over two-thirds of *this whole* importation, 12,603,094 lbs. *came from* Buenos Ayres, invoiced at 769,106 *dollars, that is* but a *fraction* over 6 cents per lb.

Sheep Husbandry.

Dr. Fitch in his survey of Washington county, N. Y., made under the direction of the State Agricultural Society, furnishes a valuable chapter on the sheep husbandry of that section, from which we take the following, believing that our readers who are engaged in that branch of farming, will be interested and benefitted by his remarks. Eds.

Adaptedness of this county to fine wooled Sheep.—No section of our country can be better adapted for the convenient and profitable keeping of fine wooled sheep than the eastern half of Washington county. From the Bald mountain range of hills on the west, to the State line on the east, almost every farm contains a portion of interval or permanent meadow, from which hay for winter consumption is gathered; and the remainder consists of hilly upland, yielding a short, sweet, nutritious grass for summer pasturage. To the west of this tract, the level lands towards the Hudson river furnish no such pasturage; and to the east of it in Vermont, the lands become more broken and mountainous, with no intervening valleys supplying the requisite amount of meadow lands.

Most of our hills it is true are susceptible of cultivation to their summits, and at the present period, would be more profitable if given up to tillage. But although the prices of wool render its production little lucrative, it can here be grown to such advantage, that these hills now are covered with flocks, and it is probable they will so continue in all coming time.

After various intermediate remarks in regard to the statistics of sheep and wool for the county, Dr. F. observes:

This will continue to be a wool-growing distict.—This section of country, including this county and the adjoining parts of Vermont, is currently, and so far as we are able to determine, correctly regarded as being by its climate, its inland location, and the inequalities of its surface, more closely assimilated to the kingdom of Saxony than is any other part of the American continent. Its character as a wool-growing district has been amply tested. And all things considered, it must be admitted that it has every prospect of remaining conspicuous as it now is for the number and fineness of its flocks. Naturally adapted as it is for the keeping of fine-wooled sheep, extensively introduced and acclimated among us, as this species of stock now is, and experienced in its management as our population has become, there is every probability that this will continue to be a wool-growing district, second to no other in our land.

But of this county it may confidently be affirmed, it will never be occupied exclusively in the production of wool. Agriculture will always form a large part of its business. Susceptible of easy cultivation as nearly all the lands of this county are, the relative prices of grain and of wool, will at most times, it is probable, pay better for the production of the former than of the latter. It may hence be expected that so much of his land as the farmer can till within himself, that is, with his own personal labor and that of his household, will always be under cultivation; and at the same time, a flock of sheep, requiring as it does, but little time and attention during the busy period of the year, will occupy that portion of the farm which is least convenient for tillage, and thus add an important item to the proprietor's income. This is their great recommendation. Without increasing in any sensible degree its expenses, and without interfering with and hindering its other operations, a limited number of sheep can be supported, mainly upon such portions of the farm as would otherwise be neglected and for the time valueless. And this has saved our flocks from extermination during the low prices of wool for the past few years. Having withstood this disastrous period so well, it may confidently be expected that no depression in the wool market can ever occur which will have the effect of expelling them from this district. When the price of wool is low, their numbers will be diminished and more ground devoted to agricultural operations; and whenever the production of wool is *per se* profitable, their numbers will be increased, and then also, lands valuable for cultivation will be appropriated to their maintenance. Thus, wool will always be grown here in large quantities, but its amount will be augmented or diminished according to the condition and prospects of the market.

Immediately to the east of us, the condition of things is different. Here is a large tract of hilly and mountainous land, little of which is capable of being profitably cultivated, but which is admirably adapted for the pasturage of sheep. These will here be kept in large numbers, irrespective of the fluctuations of the wool market—it being the only thing to which these extensive mountain ranges can be advantageously devoted. And the flocks there summered, will be brought down for their winter keeping, to the plains of this county, particularly the low lands towards the Hudson. This is the established management of some flocks at the present time—tracts of land in the town of Fort Edward, and other tracts twenty or thirty miles distant in Vermont, being owned by the same proprietors, the latter their pasture, the former their meadow, their flocks being annually drove in the autumn to the former, and in the spring returned to the latter. To no other business can the mountain ranges of Vermont probably ever be more profitably appropriated, and they will hence settle down into this mode of management to a much greater degree than at present prevails.

Hence our anticipations are, that the hilly district forming the eastern part of Washington county, will ever abound in sheep, deriving their summer and winter keeping from the same farm, and that the level lands of the west part of the county will be devoted largely to the growing of hay, for wintering the flocks that will be summered upon the Vermont mountains—thus keeping up the same distinction which exists in Spain, a portion of the flocks being *Estantes* or stationary, and the others *transhumantes* or migratory.

Influence of keeping on the fineness of wool.—On this point it is remarked, that—what the fleece gains in weight by high keeping, it partially loses in quality. This is the current opinion; though to demonstrate it, requires such a discrimination of the nice shades of difference that exist in fineness as no one among us has the requisite facilities for making. The opinion, however, is so rational as scarcely to need the evidence of an actual demonstration. High keeping cannot add to the skin of the sheep an additional number of bulbs or glands for secreting woolly fibres; it can only increase the activity of those already existing there, thus causing them to elaborate the matter of wool more rapidly; like a sieve or strainer overloaded with material, a greater quantity and of a grosser quality passes through. Hence, on the best established physiological principles, with the fact ascertained that high keeping increases the quantity of wool, it will follow that it does so by increasing both the diameter and the length of the fibers, but not the number of them. If high keeping increased only the diameter of the fibers, nothing would be gained by it, as the additional weight would then be wholly at the expense of the fineness. But it adds to their length also, we must believe, in the same ratio that it adds to their diameter. High keeping, therefore, cannot be regarded as either vain or pernicious. The only valid objection to it is on the score of economy.

Expense of keeping sheep.—As we have already seen, the annual income from sheep, of the kind of which most of our flocks are composed, has of late years, been less than one dollar and twenty-five cents each. Nay, it is known to be a fact, that many of our common flocks in some of these years, have brought their owners a return of only seventy and eighty cents to each sheep. How this compares with the expense of their keeping, we come next to examine.

The current charge for pasturage is from one and a half to two cents per week. The first of these sums is the lowest for which pasturage is ever hired and it is only upon the mountain lands adjoining us in Vermont that it can be obtained for that price. And the time required in driving and occasionally repairing hither to see to the welfare of the flock is more than equivalent to an additional half cent. Sheep are pastured somewhat more than half the year; say thirty weeks. This at two cents per week amounts to sixty cents. When pasturage is hired by the season, however, as it sometimes can be, the current charge is fifty cents. About the same result will be arrived at in another mode of estimating it. Twenty-five acres of good pasture land is regarded as the least that is adequate to sustain a hundred sheep. Such land is sometimes bought for twenty-five dollars per acre, though it is currently valued at five or ten dollars higher than this. Six hundred and twenty-five dollars may, then, purchase the requisite amount of pasture land for maintaining one hundred sheep. Thus, without taking into the account the cost of keeping up fences, &c., the mere interest on the value of the land will be forty-three dollars and seventy-five cents, or forty-three and three-fourth cents for each sheep. On the whole, therefore, fifty cents must be regarded as the lowest sum for which a sheep can be kept through the summer.

With respect to wintering. Fourteen tons of good hay is the least quantity that any one supposes the strictest care can carry a flock of one hundred sheep through the winter upon, and more than this is usually fed. The established price of hay with us, in ordinary seasons, is six dollars per ton. This amounts, therefore, to eighty-four dollars for the flock, or eighty-four cents for each sheep.

Such, from all the information I can gather, appears to be a fair estimate of the expense of keeping this species of stock. The estimate is made as low as the facts will warrant. In addition to this we have a number of minor items very variable in amount, according to circumstances, and hence impossible to reckon up with any degree of precision, such as the time spent in foddering and other necessary attentions, the cost of washing and shearing, the value of salt, tobacco, tar, spirits of turpentine and other six-penny-etceteras that are yearly required. It is commonly estimated that the increase of the flock, under ordinary circumstances, more than makes good its own losses and balances these items, thus leaving the sole article of food to be paid for from the wool. The summering then being fifty cents and the wintering eighty-four, unless the sale of the wool amounts to one dollar and thirty-four cents to each sheep, the grower is parting with it for a less sum than it costs him to produce it.

Our farmers have been aware, that the prices of wool of late years, have not paid the cost of its production, and that if devoted to dairying or the raising of grain, their lands would yield a much greater income, than to be stocked with sheep. But being already skilled in sheep-husbandry, with portions of their farms better adapted for this than any other use, with flocks already on their hands, and all the facilities provided for their management, rather than incur the expense of a change, they have clung to their sheep year after year, with the expectation that a turn in the market would certainly take place, which would render the business more lucrative. A slight revival in the price of wool at this present time, is hailed as the harbinger of better times, and excites strong hopes that a brighter day for their interests is about dawning.

Short-horned Cattle.

The tribe of cattle called short-horns, has been known in some of the eastern districts of England for many years, but by most British authorities is not regarded as indigenous to the island. It was probably introduced from the continent of Europe. Thus Sir William Jardine, in the *Naturalist's Library*, says—"The short-horned breed were originally from a Dutch stock." Culley says—"It is pretty evident that our forefathers have imported these [the short-horns] from the continent: first, because they are still in many places called the Dutch breed: second, because we find these cattle nowhere in this island except along the east coast, facing those parts of the continent where the same kind of cattle are still bred." ("*Observations on Live Stock*," written in 1785, p 18.) Youatt, in relation to the original stock of British cattle, observes that "the battle has been stoutly fought between the advocates of the middle-horns and the long-horns," but that the short-horns can have no claim to be considered aboriginal, being "evidently of foreign extraction." (*Treatise on Cattle*, p. 9.) Martin says—"with respect to the short-horned breed, or the Durham and Holderness stock, often called the Dutch or Holstein, we have already expressed our opinion that it is not of ancient British origin, but that it is from a race spread over the northwestern portion of the continent, and prevalent in Guilderland, Utrecht, Holland, &c. ("*The Ox*," p. 56.

These remarks refer to what are now called the "*old*" short-horns, in contradistinction to the *improved* variety of that breed—a variety which within the last forty years has been extensively disseminated, and is now well known in this country. The origin of this improved variety, has formerly been the subject of much controversy in England, though for several years it has been but little agitated there. On this side of the water, however, some late attempts have been made to enlighten the public mind on this subject.

In the *Transactions of the N. Y. State Ag. Society* for 1849, Mr. AMBROSE STEVENS gives what he calls a "history" of certain short-horn cattle. This history is given as *his own*, no reference being made to any authority, except in a brief note, in which we are told where the histories of the Aislabie and other families, (not the history of the cattle,) may be found. Mr. Stevens begins thus:

"The ancient family of the Aislabies which came into England from Normandy with William the Conqueror, established themselves, prior to 1300, at Aislabie, on the river Tees, in the county of Durham, and the manor, their estate, was called after the family. As early as 1600 the family was known to possess a most extraordinary tribe of cattle."

He then labors to show that from the cattle possessed by this Aislabie family, are descended some of the short-horns now belonging to several individuals; though he does not distinctly assert that any animals now living are *wholly* of this ancient blood.

Admitting the main points of the above quotation, the first inquiry which arises is, where did the cattle alluded to come from, and of what breed were they? The Aislabie family, it is said, came from Normandy with William the Conqueror, (in the year 1066,) and "as *early* as 1600," *or five hundred and thirty-four years after they came into England*, they possessed an "extraordinary tribe of cattle." Did they take this stock of cattle with them from Normandy, or when and where did they obtain it? Were they long-horns, middle-horns, short-horns, or no-horns? On these points Mr. Stevens is silent. The most natural inference from the tenor of the language would be, that they were Norman cattle brought into England by the Aislabies.

But as we follow Mr. Stevens' "history," we find that "the Pennimans of Ormsby, in Yorkshire," are said to have become possessed of the *same stock*. Here, then, we have a key by which we may ascertain what this Aislabie stock was. In mentioning "the Pennimans," allusion is probably made to Sir James Penniman, who, according to various authorities, was many years ago in possession of a valuable stock of cattle. In the pedigrees of some of the first short-horns recorded in the *Herd Book*, the stock of Sir James Penniman is frequently spoken of, and it is stated that it was derived from Sir William St. Quintin, of Scampston. Rev. Henry Berry mentions the same facts, and states that St. Quintin was one of the early improvers of the short-horns. This Penniman stock, therefore, (which by Mr. Stevens' "history," was the same as the Aislabie stock,) was derived from St. Quintin, and to show what was St. Quintin's stock, we will refer to authorities.

The late Major Rudd, of Marton-Lodge, near Stockton-on-Tees, writing to the *Farmers' Journal*, under date of June 28th, 1821, says: "The sire of Hubback was descended from the stock of Sir James Penniman, who obtained the breed from Sir William St. Quintin. I was intimately acquainted with Sir James Penniman's steward, who has repeatedly assured me that Sir James told him this breed was a cross between the old short-horns and the Alderney [or Normandy.] Sometime ago, I happened to read the *New Farmers' Calendar*, fourth edition, published in 1802, in which at page 393, is the following passage:*

'Yorkshire is famous for the Holderness or short-horn cows. This large breed came originally from Holstein and the low countries, and was, until o.

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* The same passage occurs in the fifth edition, page 493.—Eds.

late years, too coarse and Dutch built; they have been much improved in symmetry and fineness of bone and flesh, by a judicious cross with the Norman cattle. For this improvement I understand the country is indebted to the exertions of the late Sir William St. Quintin. They are now very excellent and beautiful stock, and many of them are made fat at three years old.' "

It is proper to remark, in passing, that Major Rudd was for many years one of the most distinguished breeders of improved short-horns in England, having purchased at Charles Colling's sale, in 1810, the very best, and with the exception of Comet, the highest priced animals of that celebrated herd, viz: Petrarch, at 365 guineas; Lily, at 410; Countess, at 400; and Peeress, at 170 guineas.

Lawrence, in his *Treatise on Cattle*, published in 1809, says, at page 57,—" The extreme coarseness and size of the Northern short-horns, led to the introduction of Norman or Alderney bulls, at some period of the eighteenth century, with the precise date of which we are unacquainted. Never was there a more fortunate cross."

But it appears that St. Quintin made other importations. Rev. Henry Berry, in his pamphlet entitled "*Improved Short Horns and their Pretensions*," written in 1824, says, at pages 16, 17—" Sir William St. Quintin imported cows and bulls from Holland; and it may be added that from him Sir James Penniman, who possessed estates in the counties of Durham and Northumberland, and was desirous to extend the breed further north, obtained the cattle necessary for his purpose. From these he presented six cows and a bull to Mr. George Snowden, of Hurworth, his tenant." It should be remembered that " Snowden's bull," so called, was the sire of Hubback.

The same importation is probably alluded to by Culley in his "*Observations on Live Stock*," published in 1785. He says—" About 70 or 80 years ago, one of the St. Quintin family introduced a bull and some cows from Holstein." The same writer notices other importations, as follows:—" I remember a gentleman of the county of Durham, a Mr. Michael Dobison, who went in the early part of his life into Holland, in order to buy bulls; and those he brought over, I have been told, did much service in improving the breed; and this Mr. Dobison and his neighbors, even in my day, were noted for having the best breeds of short-horn cattle, and sold their bulls and heifers for very great prices. But afterwards, some other people of less knowledge going over, brought home some bulls that in all probability introduced into that coast the disagreeable kind of cattle well known to the breeders upon the river Tees, and called lyery, or double-lyered, that is, black-fleshed, for one of these creatures, notwithstanding it will feed to a vast weight, and though you feed it ever so long, yet will not have one pound of fat about it, neither within nor without."

The animals of these various importations were undoubtedly crossed with the stock previously in the country, and (with the exception of the last named.) probably aided in producing the variety to which the term " improved short-horns," has been properly applied.

We did not commence this article with a view of giving a full account of the short-horns—improved or unimproved; but there is one important fact to which the testimony here quoted tends, that should be borne in mind, viz: that the improved short-horns are a *mixed breed, produced by crossing*. Much other evidence of a like nature might be adduced, and even Mr. Stevens' "history," so far as it means anything, tends to the same end.

Letters from Prof. Norton—No. 9.

On the Importance of Extended Chemical Investigations.

Analytical Laboratory, Yale College,
New-Haven, Conn., August 5th, 1850.

Messrs. Editors—It may seem to many that the time has long passed, when it was necessary to write for such a paper as the Cultivator, on such a topic as I have selected for the theme of my present letter. I think, however, that a little reflection will convince any impartial and observing mind that we have as yet only begun to impress the great mass of the farming community, with a due sense of the importance of this subject.

It is common to say, that there has been a change within a few years in this respect; that farmers are now rapidly becoming convinced that there is something to be learned from scientific investigation: this is all true to a very great extent, and I will even acknowledge that in many districts, direct encouragement to such investigations has been given. Our numerous and flourishing agricultural societies, and ably conducted agricultural journals, are all so many evidences of advance, and of an awakened spirit of inquiry.

The farmers that one encounters at the shows of these societies, and those who take these journals, are as a class, ready to admit that there remains much to be done before they can be said to fully understand even the practice of their profession; and also that they are prepared to believe in the possibility of deriving great advantage from the labors of scientific men.

If all these things are so, it may be said, why complain of the farmers? why say that they hold back in the cause of improvement? This objection would have much force, were it not for the fact that after all, the class of which I have spoken, constitutes but a comparatively small part among the great agricultural population. Even the admirable shows of the State of New-York, fail to collect more than a small proportion of her farmers, although the actual concourse is immense. How many thousands there are in that State who scarcely know that such a show is ever held, excepting perhaps when it chances to come into their immediate vicinity. Many other States have no State show of any description. In a county with a population of a hundred thousand, it would be considered a successful agricultural show, which should draw together a thousand or two of people; and a gathering of more than two or three hundred of these to hear an address, on some scientific or practical topic, would be thought quite creditable. There are of course exceptions to this state of things, but I now speak of the country in general.

These facts no one can controvert; it seems then, that after all, but a comparatively limited portion of the farmers are aroused, even to the necessity and advantage of these simple steps towards improvement. Again, in going through our villages, how many people do we find, who never read any of the agricultural newspapers or periodicals, and who are ready to declaim against them all as useless How limited is the sale of even the largest and most ably conducted of these periodicals, compared with what it ought to be, if all appreciated its value.

But I desire to go a step farther, and to leave out of the question all those who may be considered entirely uninterested and incredulous on the subject of improvement; and to ask, how far can we depend on those who attend fairs and shows with much interest, who read papers and hear addresses, with some degree of attention. Surely here we may look for the fullest approval in every scientific movement, and in any educational movement; here at last, in place of ridicule and contempt, we shall find warm encouragement and assistance. How far these anticipations are realized, those who have had occasion to present such subjects, can testify. With the farmers constituting a majority in most of our legislatures, projects for educational establishments having their interest in view, are suffered to lie neglected, or even despised, year after year, while money is at the same time voted away by thousands through the votes of these same farmers, for comparatively trifling objects with which they have little or nothing to do. This evil is gradually lessening, but yet strong manifestations of it may be seen in almost every capital of state, during each legislative session. Can any one doubt, that the farmers when once convinced that money can be appropriated with benefit to the cause of agriculture, will hesitate to appropriate it so far as is necessary? Can any one doubt, but that if they were fully and really convinced, they would do it *now*, freely and not grudgingly? So far is this from true that even in three States where appropriations have been made, it has been amid doubts, fears and opposition.

The conclusion forced upon the mind by such reasoning, and such facts, as the foregoing, is, that the majority of the farmers in our States are not yet prepared to advance very rapidly, and are not sufficiently imbued with a spirit of improvement. Many of them are, as I have said, disposed to the vague belief that some improvement is needed, but they are inclined to rest in the expression of this belief. They are not ready to *take active measures* to bring this knowledge into practical forms, and within their reach, or to aid in its increase. They shrink from actual innovations, although *theoretically* they may be brought to acknowledge them possibly advisable. In short, what the mass of farmers call a *conviction*, as to the merits of scientific agriculture, is merely a somewhat favorable prepossession; if they were really convinced that there was much to be learned from it, they would not be so foolish as to neglect decisive and prompt measures for bringing a knowledge of it within their reach. In such a case men of science would not be, as it were, compelled to produce the results of their labors and to apply them to practice, in a sort of apologetic way, as if for meddling with what they did not understand; but they would be sought after and encouraged, and urged forward in every possible way.

It is strange that, after all which has been already done, such a spirit does not show itself more strongly; while, too, the advantages from the application of chemistry, or of the other sciences, to practice is so extremely capable of proof.

Suppose, for instance, a farmer entering upon a new soil, of which he knows nothing, either in respect to its composition, or its physical properties. He wishes to grow wheat upon it, that being perhaps the best crop he can raise, if it will do well. His only way of deciding this question is by actual experiment; for there are some soils that look perfectly well to the eye, and yet will not grow good wheat. If the crop fails, his labor is all lost, and a year of his life has gone also. To this it may be answered, that manure is all that is needed, and that any farmer knows it already, without thanks to the chemist. This is true to a certain extent, but in many cases experience has shown that common manure will not produce good wheat, even when heavily applied to the land. Here then occurs the necessity for chemical analysis; by its means we are enabled to ascertain what are the substances, what are the proportions of the substances, that are contained in this grain; so much being done, it then remains to examine the soil also, and to ascertain of what this too is composed. If there are several substances present in the wheat, which are not present, or only present in small quantity in the soil, the whole subject becomes clear at once, and the great principles are established, by means of which such immense advances have been made in modern times; the principles of special manuring, that is, of supplying special deficiencies by additions of particular substances, which common manures cannot furnish in sufficient quantities.

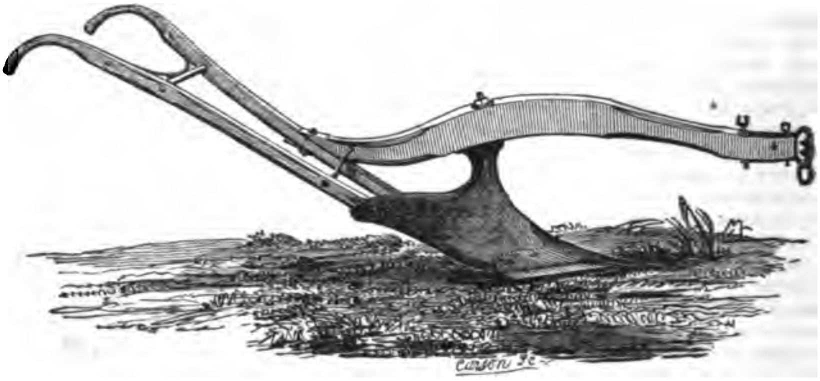
We may also suppose a case, where the farmer cannot obtain enough of common yard manure for the extent of ground which he wishes to crop with wheat. Knowing the composition of the grain, he can look about for something which will answer for its food; though here again he is helpless to a considerable extent without the labors of the chemist, to tell him whether manures or substances that he has never seen before, are really what he wants. Can any reasonable man deny that chemistry is valuable in each of these cases; cannot all, on the contrary, see that if the researches of the chemist had been much more extended, had been carried so far as to explain every change which takes place from germination to entire ripeness, and all of the differences in the varieties of this grain, that a fund of knowledge would have been collected of the very greatest importance to every practical man.

In my next letter I propose to write somewhat more at length relative to the necessity of such extended investigations as the one alluded to above, and as to the way in which they can be encouraged.
Yours truly, JOHN P. NORTON.

Of Plows and Plowing.

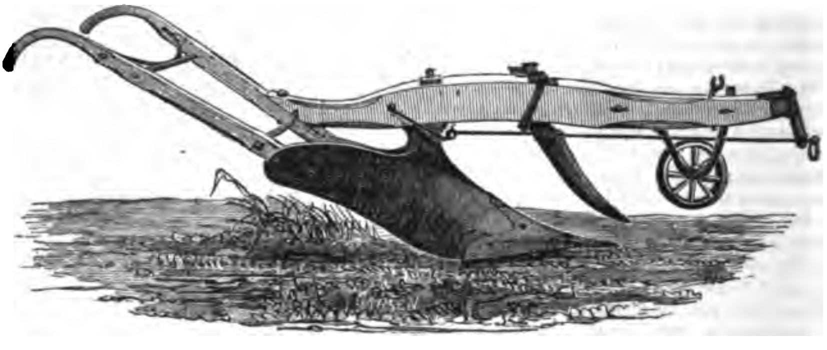
EDITORS OF THE CULTIVATOR—In the Cultivator for March last, there are some ideas of mine upon "Plows and Plowing." I there mentioned that, with such plows as I had used, I had not been able to turn stubble land in a manner that seemed to me to be the most desirable, nor to plow so deep a furrow in green-sward land as I wished; that I had stated my difficulties to Messrs. RUGGLES, NOURSE, MASON & Co., and that they were getting up some new patterns of plows with the intention of obviating my difficulties. These gentlemen have now completed three sizes of a new plow for green-sward, and two sizes for stubble land, one of the largest of each sizes of which I have tested thoroughly, and I am now happy to be able to say that they meet my wants entirely.

The mould-board of the stubble plow is of a considerably shorter construction, and is wider at the heel in proportion to its length, than that of any good sod plow; and this gives it great turning power, enabling it to take up its loose furrow-slice, throw it *all* over to the desired place, completely inverting as well as pulverising it, and leaving a clean channel behind for the reception of the next furrow. The castings, both of the mould-board and land-side, are considerably higher than is usual in plows, which prevents stones and clods of earth from falling over and down between them, and thus aiding to fill up the furrow channel. The beam, immediately forward of the standard-bolt of the castings, is high and arching, giving a clear space of eighteen inches between the beam and the sole of the castings. When the plow is at work in the furrow, the extra space left between the surface of the ground and the plow-beam, in consequence of the increased height of the latter, effectually prevents the wadding up of stubble, coarse manure, or other impediments, immediately forward of the standard; and thus are avoided those vexations so frequently experienced when plows of the common construction are used. In June last, for the express purpose of testing this plow in regard to its ability to keep itself clear from clogging, I spread a dressing of the coarsest kind of long manure over an acre of corn-stubble land, and set the plow at work in furrows 8 inches deep. The acre was plowed, and the manure all covered, without once stopping the plow to clear it, and without any effort on my part to prevent its clogging. With this implement, the plowman may choose any furrow he pleases from five to twelve inches deep. The small size of the stubble plow is intended to meet the wants of those farmers who work their stubble lands with light teams. The largest size is easily drawn in sandy or gravelly loams by a pair of stout horses or oxen, if the furrow is not more than eight inches deep.



Ruggles, Nourse, Mason & Co's New Stubble Plow

The green-sward plow is of quite different construction from that of the stubble plow. Its point is long, rising very gradually toward the standard, with a share gradually widening to its full breadth and cut.—The plow enters the ground in the form, so to speak, of a long tapering wedge, lifting the furrow-slice in a gentle and easy manner, laying it smoothly over into its proper place, with an easy draught by the team, and with little assistance from the plowman. It has also a space of eighteen inches between the beam and the sole of the castings, which prevents all clogging. The roller is attached to the side of the beam, instead of being placed under it, and consequently, it can be made ten to twelve inches in diameter, thus avoiding that constant groaning and laboring upon the axis which is liable to occur where small rollers are used. The dial-clevis and draft-rod, by which the team is attached to the plow, is an improvement, I think, upon the common clevis. Besides being a stronger and more durable attachment, it enables one to set his plow with entire accuracy in any desired furrow, from the shallowest and narrowest to the deepest and widest, that it is capable of taking.



Ruggles, Nourse, Mason & Co's New Sward Plow.

The largest size of the green-sward plow is intended for the draught of four cattle. I have used it, and it works well in furrows all the way from six to twelve inches deep, but it delights especially in deep furrows. When set for plowing a foot deep, the most proper width for it to take is sixteen to seventeen inches; and the width of course lessens with the lessening of the depth. The next size is a three cattle plow, to be used in furrows not exceeding nine or ten inches in depth. The smallest size is a two cattle plow, designed for furrows not exceeding seven or eight inches in depth. The height of beam is the same in all the sizes, and the general form and principles of working are the same; the variations being in the amount of work done, and the force of team necessary to do it.

The accompanying cuts show the general form of these plows.

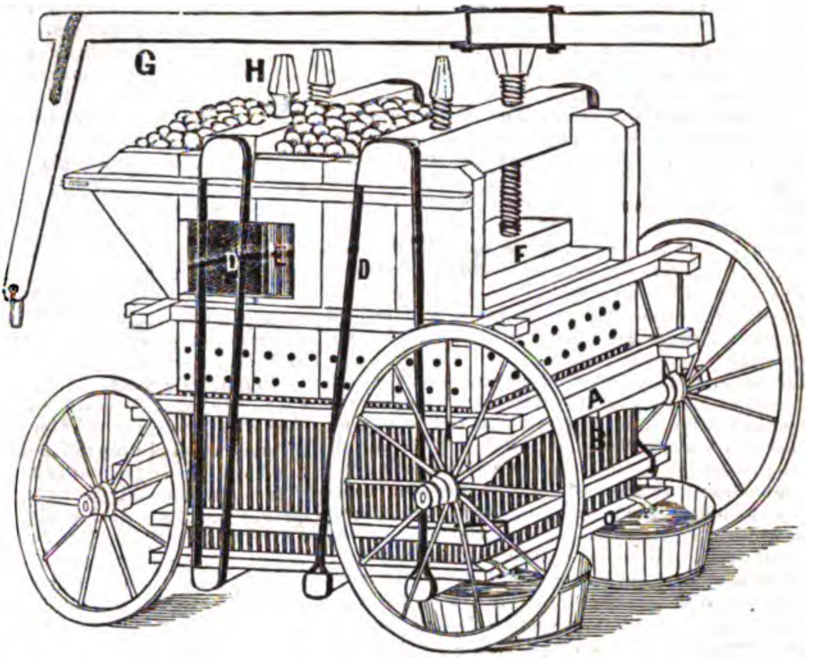
F. Holbrook.

Brattleboro', Aug. 12, 1850

Drilling Wheat.—The Michigan Farmer states that the two portions of a wheat field were sown at the same time, one with a drill, and the other broadcast; the drilled portion presented a far more vigorous and luxuriant appearance, and although the wheat had not been cut, the difference was estimated at one-third increase. The broadcast portion consumed a bushel and a half per acre; the drilled, but half a bushel.

Etherization of Bees.—Prof. Depays, of the veterinary school at Brussels, has successfully applied the vapor of ether to bees, in order to deprive them of their honey without taking their lives. The vapor was blown into the hive through a glass tube, and the bees were soon made entirely torpid, in in which condition they remained for some time, but subsequently revived, and were as lively and healthy as ever.

CHAPIN'S PORTABLE CIDER-MILL AND PRESS.



This machine, invented by Mr. NATHAN CHAPIN, of Syracuse, is arranged in one compact body upon a sett of common wagon wheels, and is drawn from one orchard to another, by a pair of horses or oxen. It operates while standing upon its wheels, and it is said it will make from 12 to 20 barrels of cider per day, with the help of two men and one horse.

They are also made in small form, about the size of a Fanning Mill, and conveyed and operated by hand, in a barn or cellar, at pleasure. [See advertisement of Mr. Chapin, of Syracuse, the patentee, in another part of this paper.]

BROWN'S COUPLING FOR PIPES AND HOSE.

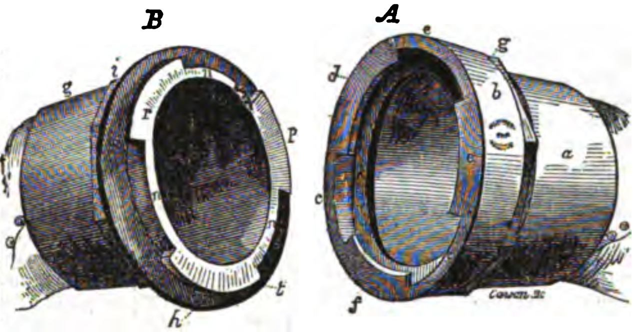


Fig. 1.—A view of the couplings when separated and the end of each part turned toward the spectator.

The annexed engraving represents two perspective views of an apparatus for "*coupling* hose and pipes," for conducting fluids, recently invented by A. HEYER BROWN of this city, for which he has received letters patent. The obvious advantage of this mode of connecting pipes or hose, consists in the celerity with which the operation may be performed by a single motion of the hands, instead of the method at present in use, which requires a number of turns to be given to the coupling boxes, corresponding with the number of *threads* or turns in the thread of the screw; and in all operations of the kind when the time required to form or sever a connection is of consequence, as in the case of fire engines, locomotive tenders, &c., it will readily be perceived that this mode possesses a decided advantage. The patentee has a number of specimens of the article of the size used by the Albany Fire Department, which he will be pleased to exhibit to such as may call on him for the purpose, at his room No. 17 Commercial Buildings, corner of Broadway and Hudson streets, Albany.

The coupling A, consists of a hollow metal ferule, *a*, attached to the hose by the method now in use. This ferule is enlarged at its other end to form a cylindrical shaped cup or hollow box, *b;* the edge of which *c*, is of sufficient thickness to form a firm bearing against the flat, corresponding part of the coupling, B.

The coupling B is a hollow metal ferule, *g*, attached to the hose, and is of equal bore to the ferule, *a*. At its extremity it is enlarged to form a flange, *h*, equal in diameter to the coupling A. The edge of the face of this flange at *s*, towards A, is turned at right angles to its axis, so as to bear truly against the edge *c*, when the couplings are united.

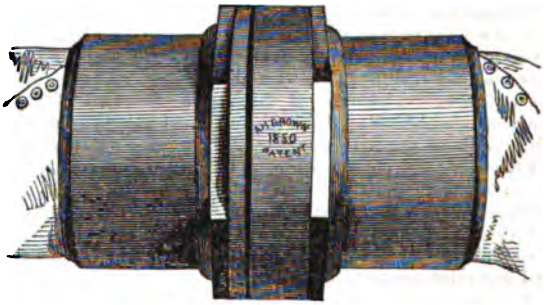


Fig. 2.—A view of the same when connected.

The *i* in figure B and *g* in figure A represent the position of a hexagonal rim, or surface, immediately behind the flanges *b* and *h*, designed for the application of wrenches, when necessary to connect the couplings firmly, or to disconnect the same.

A drone should be as rare in society as in a hive of bees, and almost deserves to be treated the same.

The Potato Disease.

Eds. Cultivator—Disease has once more fallen upon the Potato crop. A few words upon its *signs and progress* may not be uninteresting though they cannot be new, as they will be mainly, though not entirely, a repetition of the experience of former years.

The potato crop in Central New-York, came up late this season in consequence of a cold and wet May. It grew rapidly during the month of June, but was not fully in flower until nearly the middle of July, in consequence of the general lateness of the season.

The first intimations of disease upon it were noticed, after a pretty heavy rain, on the 23d and 24th of June, followed by cool weather on the 25th, on which day I noticed that the small and half formed rosettes of flowers were paralyzed and falling off unopened.

The next, and much more severe check which this crop received, was from the heavy rains of the 2d, 3d and 5th of July, followed by cool nights on the 5th and 6th, the thermometer sinking on the following mornings to 50°. There was not, however, in connection with these cool nights, the same coolness and chafing wind during the day, that I have noticed, in former years, in connection with the origination of the potato disease. Immediately after these rains, i. e. on the 6th, I observed a most marked pallid look in the potato crop, attended with the withering of the top of the leading shoots, more especially at first a single leaf, and the falling of all the flowers whether expanded or not. Here let it be asked what would be the consequence of any considerable check in the growth of this or any other plant? Would it not probably show itself at the tenderest points, i. e. upon the last formed leaves, and the flowers? Can there be then a more convincing proof that *potato disease, which always commences with this pallid aspect of the foliage, attended with the withered leaf and falling flowers, all in connection with sudden and severe changes of the weather, is legitimately the result of such unsteady weather?*

These heavy rains filled the plant with weak juices and saturated and chilled the soil so as to shut out the influence of both sun and air, and thus prevent all healthful elaboration in the plant. Meanwhile chemical tendencies would become more powerful than vital energies in the plant; and the result would naturally be morbid elaboration, and eventual disease, in the foliage in the first instance, and remotely in the tubers. Where this withered leaf is seen, the end of the shoot, in nearly every instance, either dies or hopelessly dwarfs; and its place is taken, if the plant should recover its energies, by the development of the bud in the axil of the next leaf below. After the effect of these rains and chills of the first week of July passed off, the verdure of the potato crop gradually recovered. Much of the succeeding portions of the month, however, was wet and hot; the atmosphere was like a hot vapor bath, a state of weather undoubtedly unfavorable to the health of an enfeebled plant, such as I consider the potato now to be.

July 16th, two days after a heavy and warm rain, I noticed the first *blue edgings* on the leaves of the potato seen this season. This is a fearful indication, as it almost always spreads rapidly, and is always speedily followed by death to all the leaves so marked.

After this there was a slight recovery of the healthful verdure of the crop, which continued until the 25th, when a slight shower, followed by a chill on the 26th and 27th, reducing the morning temperature down to 52° and 49°, and once more brought pallid looks and increased the withered leaves and falling flowers.

August opened with a continuance of all the preceding morbid indications, especially with a very rapid increase of blue tips upon the upper and outer leaves of the plant, and iron-rust spots upon the lower and inner leaves.

Whole fields of early planted potatoes now look as though lately invaded by a scorching flame. During the present week, I and my neighbors have frequently found tubers marked with tender, reddish spots on the cuticle, beneath which the flesh begins to be a little soft.

What the result will be, no one can tell. It may be hoped that some very late crops will find cooler and more even weather, and so mature a fair crop of healthful tubers, just as was the case last year; although, as a general rule, it is undoubtedly true that early planted potatoes do best.

It is yet too early to know how fatally the tubers of early planted crops of potatoes will be diseased, but I anticipate painful results.

It is a melancholy work to watch the progress of disease on this valuable plant from year to year, and to feel how imbecile are the most of our efforts to avert it or arrest its progress.

In harmony with the suggestions of my published essays on this topic, I am laboring to renovate the potato—*first*, by successive reproduction from seed balls, gathered from our strongest existing varieties, and *secondly*, by importations from South America, whence I have tubers brought both from *Bogota*, in *New Grenada*, and also from *Chili*. These last I appreciate not as a race of tubers to be made the basis of cultivation, but as a supposed pure and hardy source of new seed balls.

Should it be asked how the morbid indications of the present harmonises with those of former years, I answer most exactly. There is one difference in circumstances however. They are more obviously connected with hot and wet weather, and less with that which is cold and windy, than in former years. The relation of disease to different soils, aspects, modes of culture, varieties, &c., I have hardly had time to examine, nor is it quite time to fully know.

An argument, derived from the culture of other tropical plants, has been adduced to show that the potato, in common with most other tropicals, suffers from sudden alternations of weather. It is yet too early fully to illustrate this argument from the culture of the present year. It may be observed, however, that tropical plants have grown less vigorously than in some former years, but that, as there has been an absence of severe and sudden chills, so the *foliage* of these plants has not been diseased as much as in former years. The fruit of these plants also has suffered less than in former years. I now refer especially to cucumbers, melons of all sorts, summer squashes and beans. Tomatoes show a strong tendency to the wet rot. The dry black induration upon this fruit, noticed in former years, in connection with the potato disease, has not yet been seen this year. The time has not yet come for some tropical plants to show all the morbid indications to which they are liable, as their fruits are not yet matured.

It has been advised to mow off potato vines, when first struck with disease, in the hope thus of preventing its communication to the tubers. The only case where this would be applicable is that in which the tubers are large enough to be worth saving. In such a case, and where the approach of disease was sudden, as in 1846, I certainly would do it. There is, however, usually this practical difficulty about it: the disease is often permitted to make too much progress before it is attempted, and then it can do no good. There is also always a hope that it will be light, and that the vegetation of the potato will, after suffering awhile, recover and mature its tubers in a tolerably healthful condition.

In conclusion, so uniform are the morbid indications of the potato, taking sorts, soils, modes of culture, and time of planting, into consideration, and connecting all with changing states of weather, that I have almost ceased to feel any curious interest in them. A melancholy interest all, however, must feel. I have no hope of a permanently better state of things while our old varieties continue to be cultivated.

The alternative to which we are fast being driven is, I think, regeneration or ruin. C. E. G. *Utica, Aug.* 10, 1850.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Irrigation of Gardens.

From repeated experiments, we are induced to draw the conclusion, that next to manure, the great prime mover in successful culture, there is nothing more important to vegetable growth in many cases, than irrigation. Practical gardeners in countries far more moist than our own, regard it as indispensable, and a large share of their success depends on copious waterings.

Some interesting instances which have recently occurred may be worth stating. Two rows of raspberries stand on ground in every respect alike, except that one receives the drippings from a woodhouse, and the other does not. The watered row is fully four times as large in growth as the other. Again,—the berries on the bushes of the Fastolff and Franconia raspberries were at least twice as large when the soil was kept well moistened, as afterwards when allowed to become dry; a repetition of the watering again doubled their size. Again,—a near neighbor who cultivates strawberries for market, and who uses a water-cart for irrigating the rows, raised at the rate of one hundred and twenty bushels to the acre on common good soil by this means—and he noticed that where the cart was left standing over night so that the water gradually dripped from it for some hours upon a portion of the plants, the fruit had grown to double the size of the rest, in twenty-four hours.

It should be observed that these advantages of a copious supply of water pertain chiefly to small or annual plants. The roots of fruit trees being larger and deeper, are to be supplied with moisture in a different way; that is, by a deep, rich, mellow soil, kept moist by cultivation, or by covering thickly with litter. Water applied to the surface, rarely descends so low as the roots, and only hardens the soil to a crust.

Striped Bugs.

John W. Bailey, an enterprising fruit raiser of Plattsburgh, N. Y., gives the following method in the Horticulturist, which he has found the only one *effectual under all circumstances:* "Take 4 pieces of boards about 2 feet long and 7 to 10 in width, [we presume he means 7 to 10 *inches* and not *feet*, *Eds. Cul.*,] nail the ends together, and put around the hill vines, and no striped bug will ever be found inside (if not there when the box is put on.) Three or four short boards put around the hill and kept there with wooden pins will answer the purpose equally well. This season the bugs had destroyed more than half my vines before I put my boxes on. I then planted the vacant hills inside the boxes; not a bug came on the vines after that, until I supposed the young vines last planted, were strong enough to defy the bug, when I removed the boxes, and they were immediately attacked again, and I was obliged to replace the boxes. I have tried this for several years."

American Pomological Congress.

An invitation is given by the officers of this institution, which holds its next meeting at Cincinnati, on the 11th, 12th and 13th days of this month to all agricultural, horticultural, pomological, and kindred societies in the United States and Canadas, to send such number of delegates as they may deem expedient. Specimens of fruits are also solicited, "with lists of the same, and also papers descriptive of their art of cultivation, of diseases and insects injurious to vegetation, of remedies for the same, and whatever will add to the interest and utility of the convention."

Packages of fruit not accompanied by the exhibitor, to be sent to JOHN F. DAIR & Co. Lower Market street, Cincinnatti, O., very distinctly marked, "*For the Am. Pomological Congress.*"

Delegates are to forward their certificates to J. B. RUSSEL, corresponding secretary of the Cincinnati Horticultural Society, and to report themselves on the 11th at the *Burnet House.*

The Michigan or Prairie* Rose.

(*Rosa rubifolium.*)

None can be better adapted for pillars than the Prairie Rose. It is more hardy than the Ayrshire in some localities, and more vigorous in its growth than the Boursault. Its colors are fine, though there is room for improvement,—for if we could give to its flowers the brightness of Coccinea superba, the dark richness of Miralba, or the pure white of Madame Hardy,—their beauty and splendor would be much increased.

It is now scarcely ten years since much was known of its double varieties. It is true that in the spring of 1836, Professor Russel published a notice of a semi-double prairie rose found on an island of the Ohio river; but he had not seen the flower. R. Buist, in his Rose Manual says: "It was in 1837 that we first saw a double variety of this rose, although such had been cultivated in Ohio and Kentucky for many years." He has not mentioned, however, the name of the variety.

In the spring of 1840, James Wilson, in the Albany Cultivator, described a double variety "with flowers similar to the cabbage rose." This I presume was the Queen of the Prairies.

In the Rose Manual (1844) six kinds were named, which had been originated by Samuel Feast of Baltimore; but the author adds, "I have now a few hundred plants obtained [by hybridizing] which exhibit in their growth great diversity of character, but have not yet bloomed."

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* This rose is not found in the open prairies, but in the oak openings or barrens where the timber is sparse, and of stunted growth. It is not a trailer like the Ayrshire rose, but shoots directly upward, and sometimes occupies the tops of other shrubs. In 1816 I saw one a few miles east of Vincennes, Ind., and made the following memorandum at the time: "Observing a plum tree with large red flowers twelve feet high, I turned from the road to take a fairer view, and with surprise beheld a rose bush resting its vine-like stem on the branches to that height. The blossoms are in clusters, and as the color varies with age, the appearance is beautiful. I have seen this rose almost every day since we crossed the Sciota, and believe it might be trained to the height of twenty feet." Travels in the West, page 142.

Within the last year, C. M. Hovey of Boston, told me they had 18 double kinds of this rose; and W. R. Prince, before his departure for California, had spoken to me of 27 double sorts in his nursery. Doubtless we shall soon have many others.

As the native land of this rose is also the land of the mounds, it must have grown in ancient times amongst a dense and civilized population. Had they not a taste for flowers? and did it not enter their gardens? Did it spread into double varieties (generally the result of high culture)? It was then as capable of doing so, as it is at this day. Was the period in which that people passed away, so remote from the present, that all *their* varieties have had full time to perish, and their seedlings to return to their wild and single state? D. T. *Greatfield*, 7 *mo.* 25.

Belle Magnifique Cherry.

We are delighted with this fine large variety. A seedling had sprung up in the garden, into which I inserted a bud, and the tree is now six feet high, hung with cherries from the highest point where the branches are old enough, down to within one foot of the ground. It is truly an ornamental plant.

While our light-colored cherries were decaying in abundance on the trees, the Belle Magnifique was too small and green to be affected by the wet weather; and now (7 mo. 20,) when nearly all our other (60) kinds are gone, this comes in as a prelude to the feast of apricots. Though belonging to the class of Duke cherries, it loses most of its acidity in ripening, and ranges very high on our list of favorites. D. T.

The Cherry Bird.

"For the past three years, I have lost nearly all my cherry crop by the cherry or cedar bird—the present year I should have had at least fifteen bushels of the finest sorts, but have scarcely obtained six quarts, on account of their ravages." B. *Ontario Co., N. Y.*

Our correspondent is not alone in his disappointment from the depredations of the cedar bird. A near neighbor lost forty bushels by estimate in the same way. Two years since, the writer lost a large and valuable crop of very early pears, in three hours time, by the cedar birds which descended in clouds upon them.

All the rest of the feathered race do not occasion a fiftieth part of the damage to this crop, caused by the cedar bird alone. We know of but one remedy that has proved effectual, out of some eight or ten that have been proposed. Cultivators will take their choice whether to adopt it or lose their cherries. This is to shoot a few of them. It is remarkable how soon the remainder become alarmed, and disappear entirely. An old fruit cultivator says that he is never troubled with them after the first week, where this remedy is applied. The present year they commenced in such numbers and with so much boldness, that the man who was gathering the crop, found it impossible to drive them away, even when he had ascended the tree with a ladder. A few hours time spent for two or three successive days, served completely to disperse them, and for weeks afterwards not one was to be seen. In applying this remedy, humanity will dictate that the charge and the aim be so sure as not to wound without killing. This is the only species of the feathered race against which we should have any controversy—the crow, the owl, the hawk, and the blackbird, as well as all other birds, we regard as friends, the mischief they commit being so small, or the benefit they occasion so great, that we should feel bound to protect them.

Native Flowers.

Lilium canadense, (common meadow lily,) is remarkable for two very distinct varieties, besides some of inferior note. The first kind I have only observed on, or below, the Allegany range of mountains; and this is the variety from which some botanists have drawn their character of the species. The flowers are bronze-yellow, segments more attenuate, and but slightly revolute. Dr. Torrey calls it the "Wild *yellow* Lily."

The second kind is indigenous in Western New-York, and might properly be termed the *Red* Meadow Lily. This is probably *v. rubrum* of the Encyclopedia of Plants, and perhaps *v. coccineum* of Pursh. The flowers more resemble those of *Lilium superbum*, in color, in the purplish dots on the inside, in the segments which are very revolute, and in number. I once saw twenty-eight growing in a pyramid on one stalk, though a third or a fourth of this number, without culture, is rather unusual. Yet in its leaves and their verticillate arrangement, it fully agrees with the former variety.

The characters of those two *species*, solely considered in reference to each other, may be given as follows:

Lilium canadense: Leaves, lanceolate; nerves and edges of the leaves, hirsute.

Lilium superbum: Leaves, linear lanceolate, scattered above; nerves and edges of the leaves smooth.

Some years ago I introduced the Bronze Meadow Lily into my garden; but the soil seemed ungenial, as it grew less thriftily than the Red variety; and after a fair trial, I set it in the same border of selected earth which agrees so well with the Laurel (Kalmia latifolia.) Now, instead of two or three flowers on a stem, it has eight, beautifully arranged on a strong stalk, not less than five feet high. D. T. *Greatfield*, 7 *mo.* 15, 1850.

To winter Bourbon Roses.

The Editor of the Prairie Farmer announces that he has succeeded after several years of trial, in wintering with perfect security the Bourbon and other equally tender roses,* so that not an inch of twig or even of leaf was blackened or injured. It will be recollected that they have very sharp weather at Chicago, where these experiments were tried.

The process is this:—"First, to keep their feet dry; this is essential, for in wet soil, they are sure to be spoiled. The next thing is a proper covering for the tops. The best thing we have ever yet tried is *tan bark*. Indeed, this leaves nothing to desire. It is one of the best non-conductors extant, and unless soaked in water, will keep sufficiently dry for all needed purposes.

"Let the twigs be bent down in the fall before the ground is much frozen, and fastened, and then covered to the depth of six inches; place on the whole a piece of board laid so as to turn off the water, and the plant is safe till spring. Care should then be exercised in removing the covering, a part being taken at a time, and a part being left till the weather is tolerably well settled."

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* The Bourbon roses include the Souvenir Malmaison, Princess Clementine, Gloire de Rosamene, &c.

"Tea and China roses may also be kept in tan; though a portion of them will fail."

Cutting off the Leaves.

Last summer I mentioned the case of a rose shoot which had withered in the hot sunshine, and which was preserved by removing all the leaves. A few weeks ago, a case somewhat similar also occurred. The gardener's spade had disturbed a layer of the *painted damask*, and it was much withered before I observed it; but immediately I cut away all the leaves, and part of the stems, at the same time screening it from the sun. It is now recovering its foliage. The questions may arise, however, would it not have recovered without this excision, and would not the leaves, as soon as they were dead, have ceased to *pump out the moisture*, and thus by a provision of nature, recover without any care of ours? I think not. The leaves would act as long as any moisture was left; and when none was left, the branch or shoot would perish with them. D. T. *Greatfield*, 6 *mo.*, 20.

Virgilia lutea—*Yellow Flowering Virgilia.*

So it is called in the Encyclopœdia of Plants, and the flowers are marked as yellow, agreeing with Nuttall in this particular. The only tree of this sort that I have ever seen stands in my garden, with *white flowers*. It has stood there about twenty years—8 inches in diameter, and 18 or 20 feet high, with a fine spreading top. It has never been in *full bloom* till the present time. The racemes are compound or shouldered like a bunch of grapes, about a foot in length, pendulous; and having a darker foliage than the locust, it is greatly admired. There is a constant buzz from the bees that frequent it.

Although it comes from the south,—Nuttall says hitherto only found in the mountains of Tennessee,—it is perfectly hardy at this place. D. T. 6 *mo.* 21.

Corrections of last Number.

In the last number of the Cultivator, on page 268, the printer has erroneously converted *Rambour* into *Rambo*, these being names of quite distinct varieties. On page 270, *Bowyer's* Early Heart is changed to *Boyer's*, the former being the correct name. The figure of the wire-loop label, on page 269, should have been drawn so that the notches designating the numbers should be near the twist in the wire, and reading from it, to prevent mistake by reading the wrong way. In the figure immediately above, the notch designating O, should be deeper or more distinct, so as to be about four times as large as the others.

Rose Cuttings.—One of the best methods of securing the success of these, is to stick the cutting about an inch deep into *clean* river sand—with properly prepared soil about an inch below to receive the roots as soon as they strike. The clean sand prevents the wood from rotting. A correspondent of the Horticulturist succeeded with this when every other mode failed, and says he does not lose one in twenty.

The little and short sayings of wise and excellent men are of great value, like the dust of gold, or the least sparks of diamonds.

Domestic Economy, Recipes, &c.

To Cook the Egg-Plant.

This is a delicious and highly nutritious vegetable, which would be more extensively used, if the proper mode of cooking it was understood. The following mode has given satisfaction so far as we have known it tried. Cut the purple egg-plant into slices a third of an inch thick. Put the slices on a plate, one over the other, with a sprinkling of fine salt between each layer, and lay a weight of three or four pounds on the top; leave them in this situation for four or five hours or over night. The salt will form a liquid with the juice of the egg-plant, which will take out the bitter quality. The liquid should be drained off. Fry them brown in lard or butter.

The following mode of *stewing* the egg-plant is given by Miss Beecher: Take the purple kind, stew till soft, take off the skin, mash it with butter and sweet herbs, grate bread over the top, and bake it till brown.

Preserving Tomatoes for Table use.

Tomatoes may be so prepared as to be kept a long time, and when cooked are almost as good as the fresh fruit. The following is a receipt sent us a few years since by a subscriber in South Carolina.

Prepare the tomatoes as for cooking, (without seasoning,) boil them one hour; then put them in small stone jars; cork and boil the jars for two hours, then take them out and seal them *air-tight*. When opened, season, &c., and cook for half an hour.

Tomato Figs.

The small pear-shaped tomatoes, may be preserved as follows. They are very fine and their resemblance to figs is not wholly in name and appearance. A chemist at our elbow, who has analysed both figs and tomatoes, tells us that the composition of the fruits is quite similar.

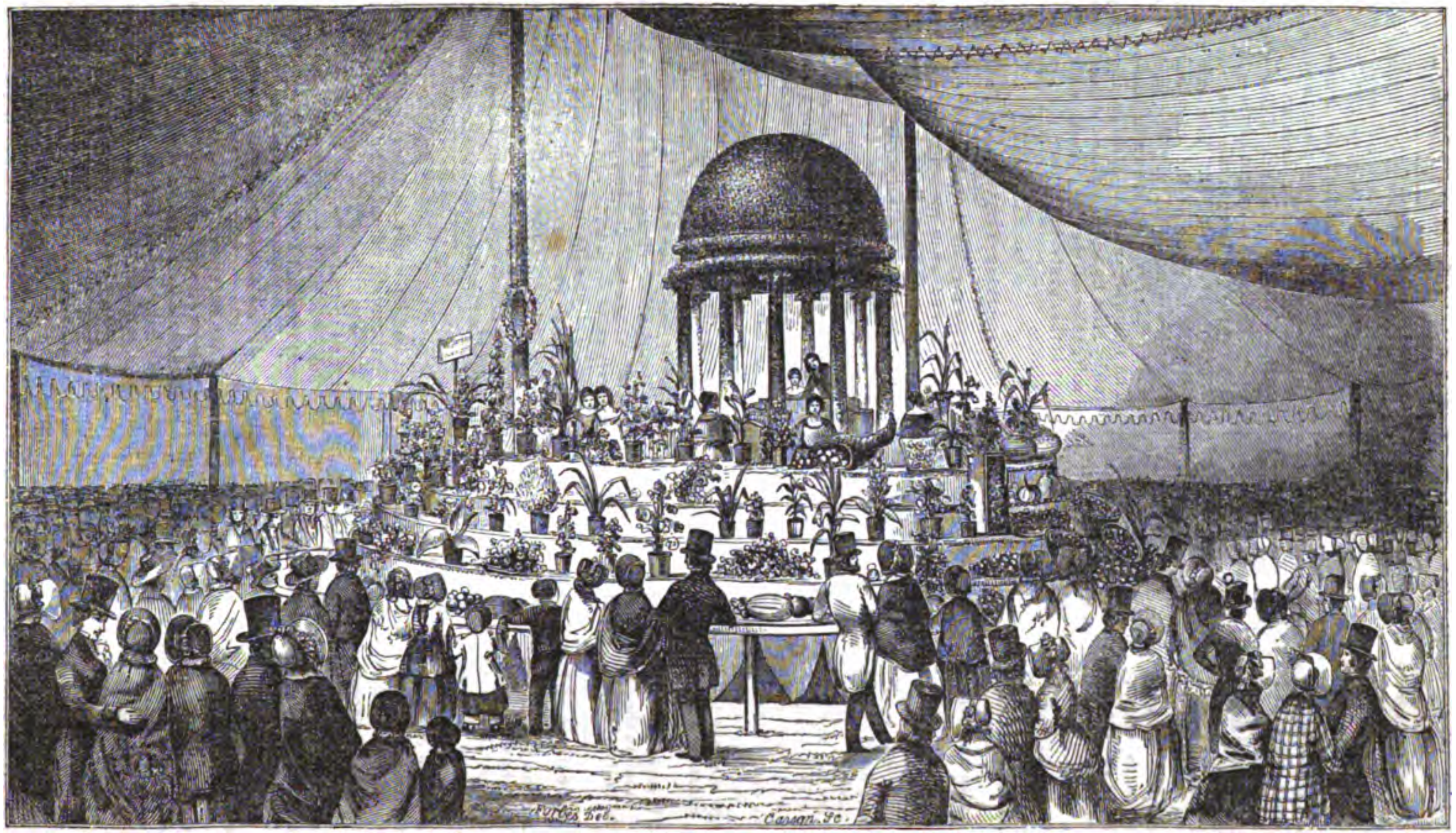
Scald and peal the tomatoes, and then boil them in one-third their weight of sugar, till they are penetrated by it. Then flatten and dry them in the sun, occasionally turning them and sprinkling with sugar. When dry pack them in layers, with sugar sprinkled between.

Tomato Ketchup.

Pour boiling water on tomatoes, let them stand until you can rub off the skin; then cover them with salt, let them stand twenty-four hours. Then strain them, and to two quarts put three ounces of cloves, two ounces of pepper and two nutmegs. Boil half an hour, then add a pint of wine. *Miss Beecher.*

To make Cucumber Pickles.

Soak the cucumbers three or four days in old, sour cider, or two parts water and one of vinegar; then place them in the pickle-jar; heat good cider vinegar scalding hot, with an ounce of alum to a gallon of vinegar, with any kind of spices, and in such quantities as suits the taste; pour it over the cucumbers while boiling hot; cover them tight, set them in a cool place and if the vinegar is right they will keep till June, when the old vinegar should be discarded and new substituted. Pickles made in this way are always crisp; the alum hardens the skin of the cucumber, so that it never turns soft. Those made in this waya year ago are in excellent condition now.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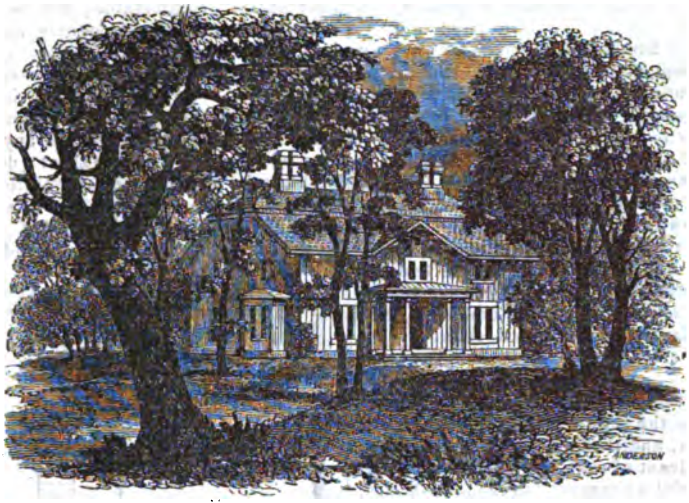
INTERIOR VIEW OF " FLORAL HALL."—State Fair at Syracuse, 1849.



A BRACKETTED FARM-HOUSE, OF WOOD.

Rural. Architecture.

Downing's Country Houses.

THE ARCHITECTURE OF COUNTRY HOUSES: including Designs for Cottages, Farm Houses, and Villas; with remarks on Interiors, Furniture, and the best modes of warming and ventilating; with 320 illustrations. By A. J. DOWNING. 8vo. pp. 484. Appleton & Co.

THE distinction between a civilized and a brutal people, is not only indicated, but, in a great measure, caused by the influence of their homes. The domestic habits of all nations may be cited as proof. The rude log hut or the brush-covered hovel on the one hand, and the embellished cottage and farm-house on the other, afford a living index, pointing to the character of the people within. We must not however suppose that the ultimatum has been reached by the present architecture of civilized nations. It most evidently has not. For example, the best portions of our own country afford, we are compelled to say, too many violations of the rules of taste, of adaptedness, and of economy, in the houses of the inhabitants. Take a single defect, out of fifty, in a farm-house. The housewife is compelled to walk three needless yards, fifty times a day, in passing from the kitchen to the living-room. To save these three yards, by improved arrangement, would save thirty miles of walking in the year.

The book before us is *exactly* the one now wanted by the country at large. We think it decidedly the most widely useful work yet from the pen of its popular author. Every man who lives in a house should examine its contents. No person, possessing the least shade of taste, or love for convenience and economy, can fail at any time to pass an agreeable half hour in turning over its pages. But interesting as it is to the superficial reader, it will also bear thorough study. It is full of the most valuable suggestions, no matter into what part the reader may open, which will many times repay all the time spent in its examination.

This work consists of four main portions. The first (after the introductory remarks,) is occupied with *twelve* designs for *cottages*, with their various minutiæ, with prices from $300 to $2,500. The second contains *seven* designs for *farm houses*, costing from $1000 to $5000. The third furnishes *fourteen* designs for *villas* or *country residences*, from $2500 to $15000. The fourth comprises a great deal of valuable matter relative to the treatment of interiors, and with the description of furniture, all largely illustrated with engravings. There are, besides, many practical directions relative to economy in erection, materials, construction of chimneys, ventilation, paints and cements, eave gutters, &c., besides a chapter on the tasteful and convenient arrangement of stables.

Some may think a few of the designs approach the awkward or grotesque, simply because they have not been accustomed to see houses so constructed. One object of the author, it must not be forgotton, was to give a great variety in style, adapted to the varying localities of the country, and it is very easy to adopt the more simple and regular forms, by those who prefer them.

Others may object to the distinct line drawn between cottages, farm-houses and villas. But this distinction need not exist in fact; a cottage design may be adopted for a small farm-house, and a villa for that of a decidedly wealthy farmer. The man of moderate means may have a strong predilection for literary or scientific studies, and hence a small room as a library and cabinet may be more appropriate than for the larger house of his richer, but less cultivated neighbor. There is no difficulty in varying the designs given to suit circumstances.

We have noticed perhaps one or two defects. No provision is made in any of the villas, (with one exception,) by a nursery or large bed-room on the common floor, for the children, a most important portion of every complete family. There are also too many basement kitchens; a thing which should not occur, it strikes us, where land is less than one thousand dollars per acre—because it is easier to walk twenty yards on a level, than to ascend three yards in height. But these defects are not difficult of remedy, and are but as a speck on the column, when compared with the great value of the work. Indeed, when viewing the innumerable errors in building, all over the country, we cannot but wish that a hundred thousand copies might be speedily circulated. We give it as our opinion, that independently of the increase in good taste, every person of ordinary sense who may be about to build, may save, as a general average, from fifty to a hundred dollars on every thousand expended, by studying this book.

We had marked a number of passages for copying into our columns, but want of space will exclude all but a few. The following rules to be observed in designing *farm-houses*, contain much in little. The first four refer to the production of beauty :—

"That the form of the building should express a local fitness, and an intimate relation with the soil it stands upon—by showing breadth, and extension upon the ground, rather than height.

That its proportions should aim at ampleness, solidity, comfort, and a simple domestic feeling, rather than elegance, grace, and polished symmetry.

That its details should be simple and bold, and its ornaments, so far as they are used, should rather be rustic, strong, or picturesque, than delicate or highly finished.

That in raising the character of the farm-house, the first step above the really useful, is to add the porch, the veranda, and the bay-window, since they are not only significant of real, but of refined utility.

So far as the *useful* is concerned in the farm-house, its principles are better understood, but we shall do no harm in recapitulating the most important :—

The farm-house should be built of strong and enduring materials, whether of timber or stone, so that it may need repairs very seldom.

The pitch of the roof should always be high, not only to keep the chamber-floor cooler, and to shed the snows in a northern climate, but to give sufficient garret room for storing and drying many of the smaller products of the farm.

The *living-room* of the family should be a large, and usually the largest and most comfortable apartment; it should be so placed as to be convenient to the other apartments used in the every-day occupations of the family, and its size should never be sacrificed to that of the parlor.

Every farm-house should contain a room for milk (even when the dairy is a separate building, as in most American farm-houses,) as well as a room or back building for wood or other fuel.

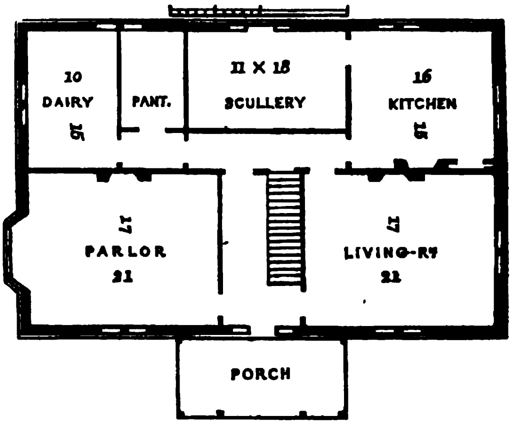
When the means of the farmer allow him to extend his accommodation, they should first be applied to multiplying and rendering as complete as possible, all apartments, on the first floor, calculated in any way to facilitate the domestic labors of the family or farm, before he increases the size or number of his parlors.

In addition to the rules laid down in Section II. for the production of fitness and tasteful effect in cottages, we may also add, that though a farm-house should always be built of solid materials when economy will permit, yet there is a mental satisfaction in finding at all times, that it is constructed of materials most abundant on the farm, or at least in the district where the house is placed.

Wherever good building materials abound, their use in building the house of the owner of the land, not only enables us to understand that the abundance and cheapness of those materials have made it easy to build a large house there, but it also affords us an index of the natural products of the earth, and has therefore a local meaning, much more valuable than any novelty that we may gain by bringing our bricks from Holland, like the original settlers of New-York, or importing portions of a French chateau, like some of our modern architectural virtuosi."

We copy a single design, that of a bracketed farm-house of wood :—

"The proportions of this farm-house are good, the form is a simple and pleasing one, and the impression it produces upon the judgment is that of a roomy, substantial, comfortable, and sensible house. It looks essentially like a country house, and while it has rather more dignity than most farm-houses, there is neither ambition nor ostentation visible in its exterior. On the contrary, the rather low and broad chimney stacks and the truncated gables show that there is a desire to avoid any especial affectation of elegance. It is in short a design which might be built in any part of the Union, and would be recognised as a country house of some importance—while it has no feature out of keeping with the position and life of a farmer in independent circumstances.

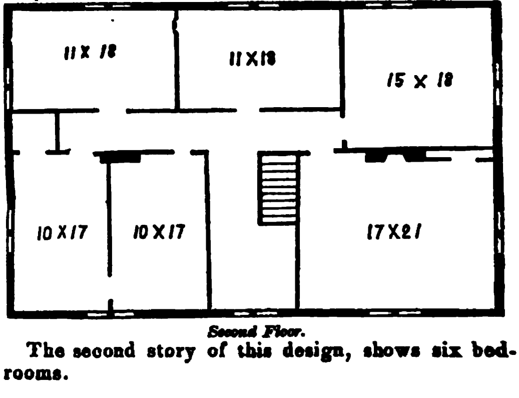


Principal Floor.

Accommodation. The exterior of this design is our own, but the arrangement of the first floor we borrow from one of Mr. Loudon's farm-houses. It is spacious and comfortable, without sacrificing too much to the parlor and living-room. The back door opens, it will be seen, into the *scullery*—which may be a wash-room or back kitchen. The passage which runs from the kitchen to the dairy should be lighted by a small sash of ground glass, placed in the partition of the scullery, exactly opposite the back door.

In many cases in this country, the dairy room being in a separate building, persons adopting this design would prefer to turn the room devoted to this use, on this floor, into a bed-room—making the pantry a milk-room, and diminishing the size of the scullery sufficient to take a pantry out of the space occupied by it.

Indeed, the ease with which this kind of parallelogram plan may be varied to suit different wants will occur to every one of the least ingenuity—and we therefore offer the exterior, as the most needful portion, as a guide to the mode of building to be adopted.



Second Floor.

The second story of this design, shows six bed-rooms.

The roof of this dwelling being large and hipped, gives a spacious and convenient garret, which is of great value in any country house, and especially to the farmer. Three good bed-rooms for workmen can be finished off in this attic, or four—if a gable like that in front is formed on the rear roof.

The porch, as will be seen by trying the scale, is 9 by 20 feet.

A cellar is intended to be built under the whole house—and there should be a back porch, which may be large enough to contain a *wood-house* (in which this plan is deficient,) or, at least, to communicate with one.

CONSTRUCTION. This house may be built, with good effect, either of stone, brick, rough-cast, or wood. We suppose it, in the elevation, for the sake of economy, to be built of wood, in the vertical boarding manner.

The first story is eleven feet in the clear, the second story nine feet. The house is to be finished with brown walls for whitewashing, the windows to have rising sashes, and both these and the doors to be finished with plain architraves with simple back mouldings; the doors in the first and second story to have four panels each; the hand-rail and balusters to be of oak or black walnut, and the whole to be executed in a very simple and plain, but substantial manner.

Estimate. To build this house here in the manner we have indicated, with planed and matched weather-boarding, and the whole filled-in with brick, would cost about $2000. At Rochester, where lumber may be taken at the average price, it is placed as low as $1477, but this estimate is without filling-in of any kind, and without outside blinds or shutters."

We close our extracts with a few scraps, pointing out some errors, often fallen into, though to a less glaring extent than here exhibited :—

"It may appear singular to one not accustomed to dwell on this subject, that it should be necessary to insist on the value of so obvious a truth as that a dwelling-house should look like a dwelling-house. But, strange to say, men who are blinded by fashion or false taste are as likely to commit this violation of Architectural truth as any other. We recall a villa on the banks of the Hudson, built in the form of a Doric temple, all the chimneys of which are studiously collected together in the centre of the roof, and are hidden from even a suspicion of their existence, by a sort of mask that resembles nothing unless it be a classic well-curb set on the top of the house. Now, as chimneys, in a northern climate, are particularly expressive of human habitation and domestic life, any concealment of them is a violation of general truth, and one might well be puzzled to know what sort of edifice was intended, in the villa in question. So, too, in the neighborhood of some of our cities, we still occasionally see houses which are pretty close imitations of Greek temples; and which, as they have sometimes as much space devoted to porticoes and colonnades as to rooms, one may well be pardoned for doubting exactly for what purpose they were designed.

Local truth in Architecture is one which can never be neglected without greatly injuring the effect of country-houses. And yet, such is the influence of fashion and false taste, and so little do the majority of citizens trouble themselves to think on this subject, that nothing is more common in some parts of the country, than to see the cockneyism of three story town-houses violating the beauty and simplicity of country life. In our own neighborhood, there is a brick house standing in the midst of gardens and orchard, which has a front and rear pierced with windows, but only blank wall at the sides; looking, in fact, precisely as if lifted out of a three story row in a well-packed city street, and suddenly dropped in the midst of a green field in the country, full of wonder and contempt, like a true cockney, at the strangeness and dullness of all around it. During a drive on Long Island, last autumn, we saw with pain and mortification, the suburban villa of a wealthy citizen, a narrow, unmistakable "six story brick," which seemed, in its forlornners and utter want of harmony with all about it, as if it had strayed out of town, in a fit of insanity, and had lost the power of getting back again."

A too frequent defect in cottages is strongly shown :—

"The cottage is not made to express, as much as possible, the simplicity of cottage life, joined with the greatest comfort, intelligence and taste of which that life is capable, but to imitate as closely as cheap and flimsy materials and a few hundred dollars will permit, the style and elaborate ornament of the villa, with its expenditure of thousands.

There are two striking illustrations of this false taste to be found in various parts of the country at the present moment—what may be called the *temple cottage* and the *cocked-hat cottage.*

The *temple cottage* is an imitation of the Temples of Theseus or Minerva, in thin pine boards, with a wonderfully fine and classical portico of wooden columns in front. The dimensions of the whole building may be 20 by 30 feet. The grand portico covers, perhaps, a third of the space and the means consumed by the whole dwelling. It is not of the least utility, because it is too high for shade, nor is it in the least satisfactory, for it is entirely destitute of truthfulness—it is only a caricature of a temple—not a beautiful cottage.

The *cocked-hat cottage* is, perhaps, a little better, for it is an imitative exaggeration, not a downright caricature. This species of cottage has grown out of an admiration for the real and intrinsic beauty of the rural-Gothic cottage, of which *gables* are strongly characteristic features. But some uneducated builders, imagining that the whole secret of designing a cottage in the Gothic style, lies in providing gables, have so overdone the matter, that, turn to which side of their houses we will, nothing but gables salute our eyes. A great many gables in the front of a Gothic villa of large size, may have a good effect; but to stick them in the front of a cottage of 25 feet front, and, not content with this, to repeat them everywhere else upon the roof where a gable can possibly be perched, is only to give the cottage the appearance, as the familiar saying goes, of having been "knocked into a cocked hat." A journey among the attic sleeping rooms of such a cottage is like that geographical exploration of the peaks of all the highest mountains, made by beginners, in the corner of a map of the world.

All ornaments which are not simple, and cannot be executed in a substantial and appropriate manner, should be at once rejected; all flimsy and meagre decorations which have a pasteboard effect, are as unworthy of, and unbecoming for the house of him who understands the true beauty of a cottage life, as glass breastpins or gilt-pewter spoons would be for his personal ornaments or family service of plate.

The most worthless of all family treasures are indolent females. If a wife knows nothing of domestic duties, she is not a help-mate, but an incumbrance.

The Farmer's Note-Book.

Notes on Farming in Ohio.

Eds. Cultivator—I came into this place two days since, and have taken a little excursion among the farmers in the neighborhood. I had before expected to see a great wheat country and large crops, but both far exceeded my expectations.

I called on Judge Kelly at his farm. He has recently sold one-half his land, and now only farms 200 acres—50 in wheat. I called on Messrs. Everhart, (five brothers from New York State,) who farm about 400 acres—160 in wheat. On these two farms are used McCormick's Reapers. Messrs. Everhart had about seven acres yet to cut, and I went to witness the operation of the Reapers. The wheat being *dead ripe*, they had for some days only worked at it while the dew was on. They had their own, and the reaper belonging to Judge Kelly, both at work with four horses to each—although two horses is ample force—but the leaders keep the tongue of the machine straight on the line of draft, and thus tend to steady the machine. Two men ride on the machine, one to drive, the other to rake off the grain and leave it in heaps ready for the binders. Mr. E. informs me they have, during the present harvest, with one machine, cut from 16 to 18 acres in a day, and by its use have got their crop in good time, which could not have been done if they had depended on hand labor, of which it is impossible to get a *supply*, even at $1,50 or $2 a day.

I could not but admire the perfect manner in which the wheat is cut and laid,—it being all cut *very even*, and about six inches from the ground. There was but very little that was not cut, and this little had fallen down and laid either on or very near to the ground.

I also called on D. Jarvis, Esq., K. Jarvis, Esq., and others, who farm extensively, and all agree in opinion that the present crop of wheat is large—more than an average, and the wheat of *superior quality*. They think it will weigh 63 to 65 lbs. to the bushel. They generally estimate their crops at 20 to 25 bushels to the acre,—some more. I learn that Mr. Hildebrand, of this neighborhood, has 200 acres of wheat, and that he is quite confident it will average 30 bushels to the acre.*

I learn that Mr. Rutter, near Bolivar, 16 miles south of this, had, four years ago, 54½ bushels from one acre—land and grain carefully measured—and that he has this season measured off an acre from the same field, which he thinks will exceed the quantity he then had.

The wheat is generally thrashed and cleaned by the use of Pitts' thrasher and seperator, operated by 6 horses; and it gets out, ready for market, 300 bushels and upwards, in a day. This is done by men who make it a business, and go from farm to farm, having the assistance of two men at each place, and charge the owner three cts. per bushel. It is supposed it will be very profitable this season, as the amount of straw will be small in proportion to the wheat. The straw being 4 or 5 inches shorter than it usually is. At the warehouse and manufactory of C. M. Russell & Co., there have been for the last two or three weeks, eight to fifteen waggons in waiting, besides others coming and going, for these machines. They have already sent off 225 this season, and there are many more, made by Mr. Partridge of this place, and also at Fulton, nine miles north of this place. There are three manufactories in this town, which make and sell annually about 1400 plows, and other farm implements and castings to a large amount.

It is said that the clay loams yield this season rather the best crop of wheat, in consequence of the severe drouth of May and early part of June. In wet seasons, the sandy loams do the best. The oat crop looks well. It is now beginning to turn. On the 14th June, corn had not come up, or if up, a large proportion was not more than 4 inches high. The farmers say that it has since then grown more than corn was ever before known to grow in the same length of time, and is now as forward as it usually is at this time in the season. Much of it is now in the ear and silk, and looks well, everywhere, and bids fair to make a large crop. We have had continued hot weather and moderate rains since the 10th June. The hay crop will probably be a little below an average. The new meadows came on late and have done well. The old meadows in some places suffered with the drouth beyond recovery, though they have done better than it was thought they could do.

The frequent showers and very warm weather for the last few days have hurt the wheat some; but I think not to much extent. In this and the adjoining counties, there was more ground to wheat this season, than usual; they will therefore have a much larger amount than was ever before harvested in one season. It is a heavy job for them to cut and secure it—not more than one half has yet been got in.

August 1st. We had yesterday a bright good day and considerable wheat was taken in; but last night we again had a very heavy rain, and to-day the weather is unfavorable. The wheat out will be much injured if the weather does not come good very soon. They are here grinding new wheat. There has been many small parcels got out. I hear of none that weighs less than 63 and most of it 64 or 65 and one lot 67 lbs to the measured bushel.

I hear of many crops of 30 bushels and upwards to the acre; and I am told by gentlemen that are likely to possess correct information, that the amount of ground to wheat this year in several counties around here, (the greatest wheat counties in the state,) is nearly or quite one-fourth more than usual.

Culture of Flax.—The farmers near Cuyahoga Falls, in Summit county, are in the practice of growing flax to considerable extent. When the seed is ripe, they go into the grounds that have been well and smoothly laid down, and cradle the flax. When it is sufficiently dried, they run it through a threshing machine which takes off the seed. The stalks or stems are then carried to a piece of grass-ground and spread out as hay is spread to dry. It there lies till it gets sufficiently rotten. They then get out their horses, colts and light wagons, and the boys drive over it; and it being turned once or twice, the sheaves are broken up and shook out—all of which requires but a few hours work. It is then loaded and carried to the paper mill, and there sold at twelve dollars per ton, which with the seed makes it a profitable crop. J. R. Howard.

Massillon, July 24th, 1850.

Crops in Seneca County, N. Y.

Eds. Cultivator—Our hay crop is one of the best I have seen, and our wheat crop, I think, will be better than last year. There will be some loss by wheat midge, yet I think not more than last year, and on some farms much less. Oats and Barley are a heavy crop—indeed too heavy to be profitable, being beaten down by the heavy rains. Corn was kept back for a long time by cold rains; it now, however, looks well; but much of our stiff soil was plowed when it was too wet to make a good crop. I believe that stiff soils cannot be plowed too dry for corn or any other crop; but more so for corn than any other.

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* Since writing the above, I have seen Mr. Hildebrand, who says he has 240 acres in wheat, and estimates the crop at 25 bushels to the acre. One farmer near here had a lot of 12 acres, which he has cleaned, and the yield was 33 bushels to the acre. I hear of others 35 to the acre.

A great many cattle were fed last winter in this part of the State—more than ever before; but I am sorry to say a great many did not pay for their keep. Many farmers went into it that never fed before, and bought cattle that were not the right kind to feed, and could not have made them profitable almost any season; but cattle were bought too high last fall, and could not be expected to pay much. I was fortunate in buying two year olds, and by growth and by fat, I got about what might be considered reasonable pay for what they consumed, besides a great quantity of manure.

In 1840, I thought I had made a great discovery, in that I could winter my sheep better on straw, with from 40 to 50 cents worth of oil meal to each sheep, during the winter; but after following that practice for a number of years, I found that by making my sheep pass a large quantity of the straw through them, I greatly lessened the quantity of barn-yard manure. Still I considered it would be so much richer that it would amount to the same thing in the end; but I found after some years, that my diminished quantity of manure, made a diminished quantity of straw to make manure, and for the last three years I have gone back to the old practice—that is to let the whole of the straw be trodden under foot by the stock, and by that means I can raise double the quantity of hay per acre that I otherwise could do, and therefore can afford to feed hay; and should my land get too rich for wheat, I must go to feeding straw again.

I this year sold 77 fleeces of Merino wool, which, at the price sold for, (38 cts. per lb., cash,) brought one hundred and forty-eight dollars ninety-six cents. Who has a better flock? JOHN JOHNSTON. *Near Geneva, 18th July,* 1850.

The Power of Steam.

Steam!—mighty steam! The term suggests a thousand pleasing and profitable reflections. That marvellous and almost invisible power which brooks no opposition, which never tires—scouring the plains, piercing the hills, threading the valleys, and plowing the wide ocean, mastering with indignant ease time and space, wind, water and seasons. The varieties of its power may well amaze us—here 'tis wielding the ponderous hammer that gives shape to gigantic metallic masses—there it weaves the gossamer web, or twists the slender fibre. It plunges the hardy miner deep into the bowels of the earth, and raises from her lap her mineral and metallic treasures. These glow and flow with liquid meltings at its powerful blast; here 'tis printing bank notes, there coining golden sovereigns. To-day 'tis preparing food and clothing for the body; to-morrow it feasts the mind, spreading far and wide, in countless numbers, the broad sheets of intelligence. Instruments of death and of preservation, alike acknowledge its power. What a comprehensive word is STEAM! It means peace, progression, civilization, education, abundance and cheapness; it is the death-blow to monopoly and privation. Ignorance and prejudice shrink away at its approach;—the iron barrier of separation is broken down by steam. The interposition of time, of distance, or of poverty, no longer wounds the tender affections. It increases alike our political power as a nation, and our morality; for the increase of physical comfort must, in a Christian community, predispose to moral good. *Mechi's Lecture on Steam.*

The Food of Plants.

Plants, even when grown in the same soil, do not draw up a sap exactly identical. Saussure has proved in the most positive manner that the roots have the power of selection, though his experiments on the unequal absorption of different salts are not quite satisfactory: for instance, sulphate of copper, though soon causing the death of the plant, is absorbed in as large quantities as any of those compounds which are beneficial to vegetation. Saussure explains this anomaly by showing that in the case of sulphate of copper, the roots were decomposed, and consequently except at the commencement of the experiment, only acted mechanically. It was well ascertained that the substances present in any solution were absorbed in very different proportions where their substances were not, like the sulphate of copper, positively injurious—for instance *Bidens* (bur-marygold?) and *Polygonum* (buckwheat?) absorbed the salts in the following proportions:—

	Bidens.		Polygonum.
Chloride potassium,...........	16	..	14.7
Chloride sodium,...............	15	..	13.0
Nitrate of lime,................	8	..	4.0
Sulphate of soda,..............	10	..	14.4
Muriate of ammonia,..........	17	..	12.0
Acetate of lime,................	8	..	8.0
Sulphate of copper,............	48	..	47.0
Gum, ...	32	..	9.0
Sugar,........................	8	..	29.0
Humus (*extrait de terreau*)....	6	..	5.0

These experiments were repeated with the greatest care, and it was proved—1st, That plants absorbed all mineral substances when dissolved in water: 2nd, That they were absorbed in very different proportions, according to the plant experimented on; this absorption was also quite irrespective of the fluidity of the solution; and 3rd, That organic matter, when dissolved in water, is not in that shape absorbed by the roots, but decomposed by their influence, and then partially absorbed.

1. Without entering into the minute details of the experiments, the absorption of the following substances was proved—prussiate of potash, chloride of sodium, sulphate of copper, acetate of lead, chloride of barium, ioduret of potassium, and many others. The absorption of nitrate of silver, corrosive sublimate, and gallic acid, did not take place until after the death of that portion of the plant plunged into their solution.

2. When the plants where placed in a solution containing two salts in equal proportions, it was satisfactorily ascertained that they were absorbed in different proportions. Even, when the salts were present in different proportions, this elective absorption was not deranged. In a solution containing three times as much common salt as nitre, a plant of *Chenopodium viride* (Goosefoot) absorbed much more nitre than common salt; whilst the contrary took place with *Solanum lycopersicum* (Nightshade.) Other plants selected also common

salt, and the *Tamarix* choose only sulphate of magnesia.

3. It was also ascertained that, when a plant was placed in a solution of fermenting manure, the disagreeable smell, which had been previously emitted, gradually disappeared.

If these experiments have not quite settled the question, they have at least strengthened the opinion that plants appropriate to themselves soluble substances in very different proportions. Chemical analysis of different plants grown on the same soil, also completely establishes this proposition. With regard to the oxygen, carbon, hydrogen, and nitrogen, chemical analysis has also proved that they are present in plants in proportions varying with the species, but agreeing very closely in the same plant. Analysis has also most clearly established the great diversity of the proportions in which different plants assimilate the alkalies and earths. For example, some plants will be found to contain common salt in large quantities, whilst wheat grown on the same soil will contain none. Other plants again, as the wall pellitory, the nettle, and borage, will be found to contain nitrates in large quantities, though they may be grown alongside of plants containing none at all. It seems therefore impossible to avoid the conclusion that plants possess the property of choosing, or at least of retaining, certain substances in preference to others, and, consequently, that different plants require different food.

But this opinion does not rest on the authority of chemical analysis alone; it is confirmed by the experience of agriculturists. For instance, it is known that certain manures seem especially to favor the growth of certain plants—as gypsum for clover—that certain plants only thrive on soils where they can obtain an abundant supply of a special ingredient, as the fern and the chestnut, on soils rich in potash, or such as are derived from slate rocks, and those of volcanic origin; that a mixed husbandry is the most productive; that a plantation containing a variety of trees produces more wood than if one species alone had been planted. These multiplied facts prove that it is not a certain quantity of a nutritive principle, but a choice amongst several that is necessary to vegetation. *Translated from the French for the Farmers' Mag.*

Water for Irrigation.

We have frequently heard it said that hard water was preferable to soft for the purpose of irrigation. But from a discussion of the subject at a late meeting of the Council of the Royal Agricultural Society, it appears that the question is not fully settled.

Mr. Pusey said he doubted whether, in the present state of our knowledge, it could be admitted as a general axiom that hard water was good for irrigation, and soft water, on the contrary prejudicial. In Devonshire, the criterion by which practical workers in water meadows were guided in their judgment of the quality of the water most suitable for their operations, was that of a certain warm, soft, and oily sensation it communicated to the touch, when a portion of it was held and examined in the palm of the hand; the absence of such a quality indicating, in their opinion, a water unsuitable for irrigation. He knew, as a fact, that when lime existed in any water in such excess as to give it petrifying properties, such was considered by practical men as decidedly unfit for irrigating purposes. He accordingly much doubted whether hard water was the only water fit for irrigation. He thought water meadows would not be confined to limestone districts; for in those geological districts in the west of England, where irrigation had long been successfully practiced, lime was absent; the water being consequently soft. He considered that water in general became softened by remaining sometime in ponds. In the hilly districts of Devonshire, the water of the small streams running down the declivities, was found to improve its irrigating qualities.

Mr. Almack considered snow as the best exemplification of the beneficial action of water containing ammonia, and possessing chemical qualities from other impregnation. Mr. Fisher Hobbs said he could fully confirm the views of Mr. Pusey.

Prof. Way said, in regard to the questions affecting the action of water in irrigation, he had only to repeat his diffidence on the subject, although he thought the criterion by which the Devonshire workers of water meadows were guided, might be fallacious. He had himself formed the opinion that the effects resulting from irrigation were due more to the chemical qualities of the water, than to the circumstance of its higher or lower temperature; but he was sensible how ignorant we were on these difficult questions, and he should be most open to conviction, and glad to learn all he could on these interesting subjects.

Cultivating Stiff Soil.

The importance of pulverization, for stiff soils, can hardly be overrated; yet it is a matter which receives too little attention from farmers in most sections of our country, where this description of soil prevails. Considerable improvement has been made in the implements used in cultivating stiff soils; as regards their pulverization, though the best implements for this purpose are by no means common. Much depends on the plow, as to the effect produced on the soil—some producing much more pulverization than others. The first effort towards producing this effect, should be to plow the land *fine*, or in narrow furrows. But in addition to this, some implement is needed which will, under any circumstances, reduce the hard soil to the requisite degree of friability. In England, an implement called the "clod crusher" is used for this purpose It consists of series of iron plates, placed round a cylinder, with notches like deep cut saw-teeth at the outer edges. The machine operates like a roller, and being drawn over the ground, breaks down and pulverizes the lumps at once. We can see no good reason why such an implement should not have been brought into use in this country.

A writer in the *Farmers' Magazine* makes some interesting observations in regard to the improvements which have been made in the cultivation of stiff soils. He says—

"We need only reflect a moment on the principles which have to guide the strong-land cultivator, in preparing his soil for the seed, and compare the means he had of overcoming his difficulties, say twenty years ago, with what he has now, and we shall see how very different is his position rendered by the application of mechanical science. We speak not of his profit, abstract or comparative; but we cannot help being struck with the vast difference in his resources of meeting the difficulties of his position. Once he had to plow with three or four horses, and to cross plow with great labor and difficulty, and then to harrow with an implement which produced scarcely any impression on the stubborn clods—to plow and harrow, and plow and harrow, whenever he could, until perhaps he found it necessary to set his work-people, in some seasons, to complete his operations with the mallet and the stone-hammer, to break the unruly clods. He had to *pulverize* and to *clean*—the one could not be done without the other, and the former had to be effected somewhat in this manner: First the unctuous clay was cut in long longitudinal parallel pieces by the plow, and left on edge to dry, being divided by a double wedge called a plow. This mass being sufficiently dry to admit the treading of horses' feet with impunity, is cross-cut into large cubes, and these are subjected to the action of natural processes. The sun and air dry out all the moisture, owing to the large surface exposed to their action. The moisture abstracted, the clods begin to crack, and show here and there symptoms of fissures by the evaporation of the moisture, forming receptacles for the next rains, which one by one again swell out the particles, and slowly the whole is broken down into a friable soil."

He observes that the practice now is, to follow the plow as soon as the soil is suitably dried, " with the clod crusher, or some similar powerful separator of clods, and by once or twice going over the field, the soil is reduced to as fine a tilth as if it had undergone a whole summer's exposure.'

Pipes for Water.

Eds. Cultivator—I noticed in the July number of the Cultivator the inquiries of a correspondent, desiring information on the subject of laying water-lime pipe to conduct water for common watering purposes, and asking what were the advantages and disadvantages of this kind of pipe as compared with lead pipe. As it regards the utility of lead pipe, I could say nothing from personal experience, never having used any; but should suppose from observation that water-lime pipe was superior to lead for all ordinary purposes, where it is practicable to make it,—having the advantage of cheapness in construction and durability, if nothing else.

I have had some experience in making water-lime pipes, and can recommend them to any one who wishes to lay them, as being both cheap and durable. I will give my plan for making this kind of pipe, which I think is as good as any, or at least I know of no better. The tools necessary for this purpose are a common brick trowel, a mould, the size you want the bore of the pipe. This should be turned in a lathe perfectly smooth and round, and of equal diameter at each end. Its length should be about two feet and a half, with a handle turned on one end, smaller than the rest, to draw by. The materials necessary in making the pipe, are good water-lime and coarse sand—the coarser the better, if sifted from the coarser pebbles. Have your drain dug to the required depth with a smooth bottom, and about eighteen inches wide at the bottom so that there may be room to work with ease. In the middle of this drain dig a trench about four inches deep and from three to five inches wide, according to the size of the bore of the pipe, with a rounding bottom, if you choose, to save mortar. The advantage this trench has over the ordinary way of laying the pipe on the level with the bottom of the main drain will be seen at once. By using the trench you save considerable mortar, and the necessity of waiting for the mortar to dry before drawing the mould. If it were laid on the level, it would be necessary to wait for it to stiffen before you drew the mould, or it would flatten out. Mix your mortar, one part lime and three parts sand; make it as stiff as you can and have it spread well.

When you are ready to lay your pipe, commence by spreading a layer of mortar an inch or an inch and a half thick, in the bottom of the trench. This should be spread only the length of the mould at a time. Lay the mould on this spreading of mortar, and then spread the mortar on the top and sides of the mould; press it down tightly, so as to fit the mould, on all sides; smooth it off with the trowel on top, and lay down another spreading of mortar; then take hold of the handle of the mould and roll it around so as to start it loose, and draw it out to within three inches of the end,—spread on another layer of mortar, and smooth it as before. So keep doing, until you have your pipe the length required. Be careful that you don't press with your trowel on the pipe above the end of the mould, or it may cause it to cave in, especially if the bore of the pipe be large. Let the pipe remain three or four days, until it gets hard and dry; then cover it up with earth. Be careful and not let any large stones fall on the pipe,—they will be apt to crack it. A pipe properly made in this way, will remain perfect as long as it is kept from the frost. R. A. Hutchinson. *Geneva, July* 29, 1850.

Preserving Corn from Worms.

In the spring of 1847, we plowed up one acre in a corner of a six acre meadow, which had been several years in grass, and the whole of which was much infested with cut-worms, and the yellow wire worm. The acre was planted with corn, and totally destroyed by the worms. Late the ensuing fall, the whole field was manured and turned over, smoothly: the spring of 1848 the whole was sown with barley, which was very much injured by the worms—in many places entirely destroyed. In September it was sown with wheat with the same result as with the barley. In the spring of 1850, we manured it well with fresh barn-yard manure, turned under; harrowed and marked 3½ feet apart by 2½ and planted corn, four grains in a hill, the first of June. It came up in five to seven days, and is now a very promising piece, as forward as any planted the middle of May.

The seed was soaked in a decotion of a pound of tobacco in four gallons of water. There were plenty of worms in the ground, as I found in planting and hoeing; but they would not touch the tobacco scented corn, while there was not a single weed to be found; and indeed they did no small benefit in destroying the grass and weeds. The field was kept as clean of everything but corn, as it well could be. At the first hoeing I observed a large mullen plant, the leaves of which were eaten through like a riddle, and upon digging around it I found over twenty cut worms. Noah Agard. *Havana, Chemung Co., N. Y.*

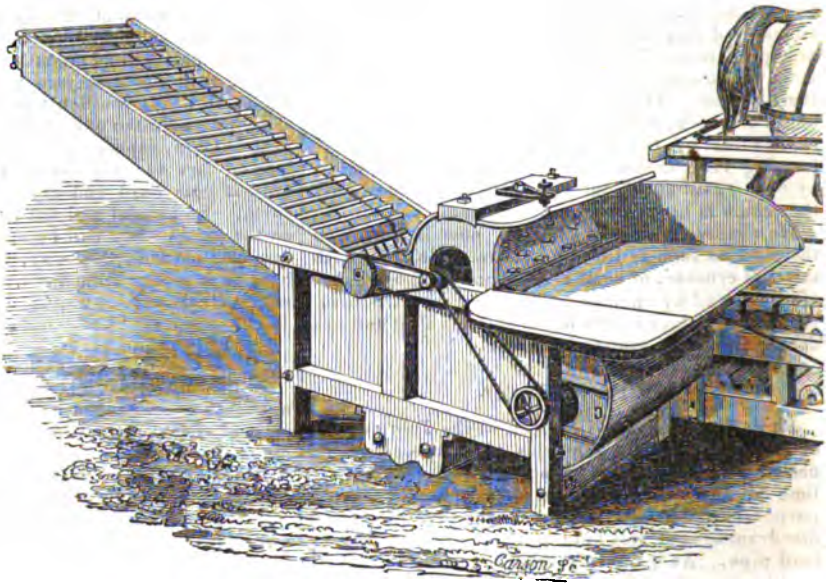
Breeding Animals.

The principles of breeding animals have rather been illustrated than discovered by animal physiology—the very principles of that science having been taught before a single scientific axiom had been applied.

The watching of physiological tendencies, and availing themselves of these judiciously in practice, was long anterior to scientific research. Emulating the skill of the wily progenitor of the Jewish race, and intelligently perceiving what was required, a Culley and a Bakewell attempted and attained the production of sheep, and of cattle, " ring-streaked, spotted and speckled," at pleasure. Seeing the necessity of economising food, they set about producing those animals which came to maturity early, and so produced vastly more food from the same amount of vegetation. Knowing that fat was an element of favor in a northern clime, they endeavored to obtain animals with a tendency to secrete it in large quantities. In order to this, they observed the qualities indicative of those propensities; and knowing that it is as true in physiology as in mathematics, that like produces like, they selected and bred from these until they stamped their qualities permanently and invariably and indelibly on the race. With these they managed to combine symmetry of form.—*M. M. M., in Far. Mag.*

EMERY'S NEW THRESHER AND CLEANER.

The annexed cut represents a thresher with an apparatus attached to it for cleaning or winowing the grain. It was got up by Messrs. Emery and Co., of this city. They have tested its operation throroughly during and since the late harvest, and we learn that it gives entire satisfaction. It cleans the grain ready for market, without waste, as fast as it is threshed. The cost of the cleaning apparatus is about $30 making the cost of the thresher and cleaner, $75.



Remarks on Wheat Culture.

All lands with a subsoil impervious to water, will heave out wheat on the breaking up of winter. It is caused by the surface soil being surcharged with water, which the night frost congeals, forming an infinity of icy pillars raised two or three inches above the surface, with the wheat plants embodied in them, and torn up by the roots; the succeeding day thaws the ice, and leaves the wheat on the surface to perish. Whenever wheat is much heaved out, it rarely escapes the rust, and the crop is either destroyed or greatly injured. The first object of the agriculturist, in such soils especially, should be to draw off the surplus water. He will so plow the fields in lands, that the last furrow on being opened by the plow, after harrowing, will drain off the water. No water should stand on a wheat-field. The spade and shovel should both be freely used. But after all this is done, he will find it only a partial preventive. Sub-soil plowing would be highly beneficial in such cases; as that would give a greater depth for the water to sink from the surface. The sub-soil plow is an important implement of the age. But the most effectual, though it is the most expensive preventive, is under-draining. All the superabundance of water can be readily discharged by under-drains.

Early sowed wheat is less liable to freeze out, than late, but is more subject generally to the attacks of the fly. The Rochester wheat, called in this county, the white chaff bearded, requires to be sowed early—from the first of September till the 20th. The red chaff may be sowed much later on an inferior soil, and succeed well; but the fly is more destructive to it than any other. The Mediterranean wheat so far as it is known to me resists the fly better, than any other kind, and being about 10 days earlier is not liable to rust; but it is much endangered by late frosts in the spring, and it would be advisable, if it be rank in the early part of March, to feed it off with sheep or calves. I greatly prefer the Rochester wheat to the Mediterranean, on a wheat soil that is in good order. But it should never be sowed on fields, which heave out wheat much; or, late in the season. It is highly important to sow wheat in good season, that it may have time to take deep root to resist heaving out and I recommend it to be done if your ground should be considerably too wet. The succeeding winter will prevent its baking. But the same practice would be very deleterious in the spring.—*Mr. Pow's address before the Mahoning county, O. Ag. Society.*

Viewing Farms.

Perhaps the operations of agricultural societies, are in no way productive of more real improvement, than by offering premiums for the best managed farms, especially where the farms are examined by judicious men, appointed for that purpose. J. W. Proctor, Esq., writing for the *N. E. Puritan*, remarks, that in reviewing the improvements of the county of Essex, Mass., "no plan appears to have been so successful as that of viewing farms entire, and requiring a statement of their management and produce for several years in succession. This was first introduced under the direction of the late Col. Pickering, and was the means of eliciting many valuable suggestions. This mode of examining farms entire, combines all the benefits accruing from the exhibition of particular subjects, avoiding most of the objections supposed to be incident to such exhibitions. Instances have come to our knowledge of the application of a large portion of the manure of a farm to a small parcel of land, with a view to ensure an extraordinary crop, which, when grown, would not be worth the value of the manure applied. Accounts of such crops may excite admiration, but they never can be worthy of commendation or premiums. That kind of cultivation which sustains itself and gradually advances the condition of the soil, is the one to be encouraged by our societies."

New-York State Agricultural Society.

New-York State Fair.

The annual exhibition of this Society is to be held the first week of this month. The following is the order for the week:

Monday, Sept. 2.—Entries to be made at the business office on the show grounds at the Bull's Head, between Albany and Troy, and articles arranged.

Tuesday, 3.—Stock, implements and articles received at the show grounds from 8 o'clock until 5 P. M.

Wednesday, 4th.—The grounds *to be open* to the *Judges*, *Exhibitors*, and *Members* only, from 9 o'clock until 5 P. M.; admission fee $1. The Judges will be called at the Society's Tent at 12, and proceed immediately to the discharge of their duties.

Thursday, 5th.—The grounds *will be open to the public* from 8 o'clock until 5 P. M. Single admissions *one shilling*—Members' tickets, $1, which allows the member, his wife and family under 21 years of age, admission during the show. The *Judges* will deliver their reports to the Secretary at the business office by 12 o'clock this day.

Friday, 6th.—Grounds open to the public from 8 o'clock until 5 P. M. The address will be delivered on the grounds at 2 o'clock, P. M., by Prof. Amos Dean, of Albany. The awards will be immediately announced after the address, and premiums paid at the business office as far as practicable, and on Saturday, at the Agricultural Rooms in the city.

The Rooms of the Executive Committee will be at the Delevan House, where guests of the Society, and visitors and delegates, are requested to call.

At the last meeting of the Executive Committee, the following gentlemen were elected Honorary Members of the Society:

Hon. Abbott Lawrence, American Minister, London.
Col. T. Le Couteur, Bellevue, Jersey, England.
Hon. M. P. Wilder, Pres't Norfolk Ag. Society, Mass.
J. S. Skinner, Esq., Editor Plow, Loom, and Anvil, Philadelphia.
Edmund Ruffin, Esq., Marlbourn, Virginia.
John P. Norton, Prof. Scientific Agriculture, Yale College.

☞ The following letter has been received by the President of the State Agricultural Society, from Mr. Fillmore, in reference to his attendance at the Fair. We understand that a letter has also been received from Ex-President Van Buren, signifying his intention to be present on that occasion:—

Washington, August 9, 1850.

E. P. Prentice, Esq.—Sir:—Yours of the 6th instant, inviting me in behalf of the "New-York State Agricultural Society" to attend the Annual Fair and Show, to be held near the city of Albany during the first week in September next, was duly received, and I desire to express my grateful acknowledgments to the Society for their kind invitation, and also to you for the flattering terms in which you were pleased to convey it.

Be assured, that nothing would afford me more pleasure than to be present at the Fair, and witness the fine specimens of the mechanic arts and agricultural productions which will be there displayed. And if the adjournment of Congress and my official duties here will permit my absence from the city sufficiently long to enable me to attend it, I shall with pleasure avail myself of the invitation which has been so kindly extended to me; but I cannot but apprehend that this gratification may be denied me. Very respectfully and truly, your ob't serv't,

Millard Fillmore.

Answers to Correspondents.

Seed of the Locust Tree.—L. A. B. The seed of the locust ripens in the fall. It may be sown in October or November, and will come up the following spring. It requires about the same covering as Indian corn. The seed is enveloped in a very thick covering, from which cause it requires a long time for the moisture to penetrate so as to produce germination; but if planted in the fall, the action of frost will soften the covering so that it will start well in the spring. If the seed is not planted till spring, it is best to pour scalding water on it, letting the seed lie immersed till the water is nearly cool. It will then come up as soon after planting as beans ordinarily do. We do not know a variety by the name of the "white locust."

Lice on Fowls.—N. S. K., Chickopee-Falls, Mass. Any kind of oil or grease will kill lice on fowls; but that which is thin, is most readily applied, and most readily spreads over the body. Dipping the chicks in tobacco-water will kill the vermin, but is likely to make the fowls sick and drooping for a while. Snuff scattered among the feathers, will thin off the lice. As preventives, the apartments where fowls are kept, should be as clean as possible. Wood ashes should be provided for the fowls to dust themselves in, and if flour sulphur is mixed with the ashes, it will be usefull. Sulphur scattered in the nests of setting hens will tend to prevent them from getting lousy.

"Snap-Dragon."—H. W., Sandlake. We are aware that the plant known by this name is rapidly increasing in many sections, and that it is very difficult to eradicate; indeed we have as yet heard of no successful mode of assailing it. If any of our correspondents can tell us of an effectual mode of destroying the pest, they will confer a favor.

Water Cement.—S. E. J., Middlebury, O. The article most in use here is called the Kingston or Rosendale cement. It is sold by W. R. Barrett, of this city, at $1,50 per bbl. The manner of making Roman and several other kinds of mineral cements, is described in the Cultivator for 1849—pp. 239, 240.

Name of Plant.—W. L. C., Chambersburgh, Pa. We do not know the name of the plant you send. We shall make further inquiries in regard to it, and will transmit any information we may obtain.

Wire for Fences.—M. M., Fort Leavenworth, Mo. The best information we can give you on this subject, you will find in our current volume, pp. 144, 145, 244, 278.

Disease in Apple Trees.—J. T. C., Greenville, South Carolina. From the appearance of the leaves you send, we are inclined to think that the malady which has attacked your trees, is similar to that which has appeared in different sections, and commonly called "fire blight." It sometimes attacks the quince, thorn, &c., and is especially destructive to the pear. We believe the best remedy is to cut off the affected branches, and burn them as soon as they show the disease.

Reaping Machines.—The Prairie Farmer says that the immense amount of machinery introduced into the harvest field at the west, will entirely obviate all inconvenience from any apprehended scarcity of help—and that probably not less than 3,500 new reaping machines will be put in use in the north-west the present season—equal to the labor of 17,500 men.

Notes for the Month.

COMMUNICATIONS have been received, since our last, from G. H. Burgess, S. E. Johnston, M. S. Kellogg, J. R. Howard, A Subscriber, D. T., B. A. Hutchinson, N. Agard, C. E. G., H. C. W., Charles Robinson, S. Worden, F. Holbrook.

BOOKS, PAMPHLETS, &c., have been received, since our last, as follows:—

THE FARMER'S EVERY-DAY BOOK, or Sketches of Social Life in the Country, with the Popular Elements of Practical and Theoretical Agriculture, and 1200 Laconics and Apothegms—also 500 Receipts on Hygein, Domestic and Rural Economy, by Rev. JOHN L. BLAKE. Auburn: Derby & Miller. From the author.

THE ILLUSTRATED DOMESTIC BIBLE; by Rev. Ingram Cobbin. Part III. From E. H. PEASE & Co., Albany. This is a beautifully illustrated and admirably arranged edition of the Bible, with brief notes and reflections for family use. To be completed in 25 parts, at 25 cents.

Fourth Annual Report of the Mahoning Co., Ohio, Ag. Society. From J. M. EDWARDS, Esq., Secretary.

D. D., Geneva.—Your communication on Grafting, was omitted till too late for the past season. It is filed for insertion in time for next year.

HAYDN'S GREAT ORATORIO.—"THE SEASONS."—We are pleased to learn that the Harmonia Society of this city, propose to perform, during the evenings of the coming State Fair, the celebrated oratorio of HAYDN, entitled "The Seasons." Nothing could be more appropriate to such a time, when

> "—— Nature, ever kind, rewards
> The pains of virtuous toil,"

than this admirable composition, which has long been considered the master-piece of its world-renowned author. We understand that the officers of the Harmonia, have made arrangements to bring out this oratorio in its perfection. The Society itself numbers over one hundred members, comprising the best musical talent, and they have been for several months engaged in preparing for this performance. They have also engaged for the occasion, thirty picked musicians, mostly from the Philharmonic Society of New York, at the head of which is the eminent composer, Mr. BRISTOW. Other distinguished performers will assist in the different departments; and we have no doubt that the exhibition will afford the highest gratification. It is to be repeated during the evenings of the Fair, (3d, 4th, 5th and 6th,) at Dr. Huntington's Church, Clinton Park.

PRICES of JERSEY CATTLE.—The Secretary of the New-York State Ag. Society has received a letter from Col. LE COUTEUR, of the island of Jersey, in which it is stated that the cost of a yearling bull of the pure Jersey breed would be from £10 to £12 sterling, ($48 to $58) delivered at Southampton, and that a yearling prize heifer would be furnished at from £10 to £15.

SAMPLES OF WOOL.—We are indebted to H. C. MERIAM, Esq. of Tewkesbury, Mass., for various samples of imported wool. They comprise specimens of most of the kinds to which he refers in his communication which we give in this number. We have deposited them at the rooms of the State Agricultural Society, where they may be compared with the different varieties produced in our own country.

HUNGARIAN CATTLE.—R. L. COLT, Esq., of Paterson, N. J., has imported a bull and heifer from Hungary. They are said to be of the breed so highly recommended by Mr. FLEISCHMAN, in the Patent Office Report for 1847. (See Cultivator 1849, p. 59.) Their color is a light dun. They are said to have cost in Hungary $112, which added to the expenses of importation, made them cost at New York upwards of $400. We hope the enterprising importer will be liberally rewarded by the improvement which these animals will be the means of producing.

WORLD'S EXHIBITION, (LONDON,) 1851.—The local committee for the State of New-York, as appointed by Gov. FISH, consists of the following gentlemen:

Hon. Luther Bradish, New-York; E. P. Prentice, B. P. Johnson, Albany; Hon. Jas. Tallmadge, A. Chandler, Charles Henry Hall, New-York; A. Van Bergen, Coxsackie; Wm. Buel, Rochester.

MONTGOMERY COUNTY, PA.—We learn by a letter from S. P. KNOX, Esq., that there is a very flourishing Ag. Society in this county, consisting of about 200 members, and that they are preparing to hold an exhibition this fall. A large portion of the members, Mr. K. informs us, are subscribers to the Cultivator.

"ACCLIMATION OF TROPICAL PLANTS."—Dr. LEE, in the *Southern Cultivator*, complains that some of the remarks on this subject, by our correspondent "C. E. G.," in our July number, are unjust. He quotes the following paragraph:

"So low is the state of society in all the States of tropical regions, that the people do not know the capabilities of the soil and climate which they possess, nor the susceptibilities of the improvement inherent in their fruits and vegetables. Hence, with a soil and climate so much inferior, we yet cultivate melons, tomatoes, squashes, &c., in size and flavor decidedly *superior* to the same fruits cultivated there."

Dr. L. proceeds to comment on the above, by saying that the "statements in regard to melons, tomatoes and squashes, are not true; and what is said about 'the low state of society in *all the States* of tropical regions' is not only untrue, but it is a gratuitous detraction. In reference to soil, taken as a whole, the Southern Atlantic and Gulf States have no superiority over the Northern States, out of New England. In point of climate, they are more favored than any equal area in North America, if not in the world." These remarks of Dr. L. indicate that he had, strangely enough, imbibed the idea that the observations of "C. E. G." were intended to apply to the Southern States of our Union! A simple and self-evident refutation of this unfounded charge, is the fact that none of *our* States lie within, or even border on the "tropical regions," and consequently could not have been alluded to by "C. E. G." The term "States," as used by him, simply signifies countries. A gentleman who edits two papers at the North, and one at the South, and also fills a clerkship at Washington—and, especially one who seeks to preside over a Bureau at the seat of government, ought to be able to define the extent of the tropical regions.

THE RAM'S HEAD IN "THE WOOL-GROWER."—Mr. PETERS states that the vignette at the head of his paper "is the head of an improved Leicester Ram, and a very good one too." Pray, how long is it since the improved Leicester sheep have borne horns? Or how does the cut in the *Wool-Grower* differ from that of a Scotch black-faced ram, which forms the frontispiece to the work on sheep by W. C. L. Martin?

☞ We understand that L. G. Morris, Esq. has purchased in England, of Jonas Webb, a lot of South Down sheep, and that he also purchased at the show of the Royal Society at Exeter, several fine Devon cattle, all destined for his farm at Morrisania, Westchester county, N. Y.

☞ We are indebted to B. B. Kirtland Esq., of the Catonment Farm, Greenbush, for beautiful specimens of the Red Astrachan apple and Smith's Orleans plum.

The Yellow-Bird.—We think our New Hampshire correspondent is mistaken in regard to the object of the yellow-bird, which he has seen on his fields of winter wheat. We think the bird was seeking the insect called weevil, or wheat midge. It is not singular that the bird should be seen more frequently on bald than on bearded wheat, as it could more readily come at the worm in the former. We have never heard the bird charged with doing injury to wheat, except in districts where the insect prevailed; yet if its object was to feed on the wheat we cannot see why it should not attack the crops of all sections, and also attack spring wheat as well as winter wheat. But the reason why the bird has been seen on the winter wheat more than on spring wheat, in the New England states, is that the former has usually been more subject to the midge—the spring wheat coming in after the period of the attack of the insect had more or less passed.

Seed of the Cane.—(*Arundo ragmites?*)—An article has been going the rounds, stating that a remarkable phenomenon had been exhibited the present season by the "cane-brake" of the south-western States. It was said to have produced seed resembling wheat, and the circumstance was represented as being unaccountable, by any known laws relating to the plant. The seed alluded to was undoubtedly the natural seed of the cane, and that it should resemble wheat need not excite wonder, when it is known that both plants belong to the same natural order—*graminacae.* The following description of the cane, from Flint's *Geography and History of the Mississippi Valley*, will sufficiently explain what to some may have appeared a mystery.

"This beautiful vegetable is generally asserted to have a life of five years, at the end of which period, if it has grown undisturbed, it produces an abundant crop of seed, with heads very much like those of broom-corn. The seeds are farinaceous, and said not to be much inferior to wheat, for which the Indians, and occasionally the first settlers, have substituted it. No prospect so impressively shows the exuberant prodigality of nature, as a thick cane-break. Nothing affords such a rich and perennial range for cattle, sheep and horses. The butter that is made from the cane pastures of this region, is of the finest kind. The seed easily vegetates in any rich soil. It rises from the ground like the richest asparagus, with a large succulent stem, and it grows six feet high, before this succulency and tenderness hardens into wood. No other vegetable furnishes a fodder so rich and abundant; nor, in our view, does any other agricultural project so strongly call for a trial, as the annual sowing of cane in regions too far north for it to survive the winter. We suppose this would be latitude 39°."

Great product of Raspberries.—It is stated that Nathaniel Hallock, of Milton, Ulster county, N. Y., has sent to New York, the present season, ten thousand baskets of Antwerp Raspberries, each basket holding one pint. He gathered seven thousand baskets from one acre, and three thousand from a lot of two acres, which had just began to bear. The prices obtained were from eighteen and three-fourths cents to twenty-five cents a basket.

Cheese Manufacture.—We have given frequent notices of the "cheese factories" so called in the northern part of Ohio. Mr. Geo. Hezlep, of Gustavus, Trumbull county, is one of the pioneers in this business, and pursues it on a large scale. We understand he is this season using the curd from the milk of *one thousand cows.* He takes the curd from the doors of the dairymen in the neighborhood, every day, and pays from 3¼ to 3½ cts. per lb. for it. He makes from 100 to 120 cheeses daily. Mr. H.'s cheese has a high reputation for quality. He has sometimes sent specimens to our State Shows, which have been much commended. We understand that he intends to send his cheese to California, this year.

Hay Caps.—We have frequently spoken of the advantages of hay caps for protecting hay against rain during the process of curing. E. Emerson states in the *Mass. Plowman* that he has used them several years, and has found them of much use in case of storms. He has had hay stand, covered by these caps, four or five days, during which there was a heavy rain, and on opening it, found it sweet and not more colored than it would have been from a heavy dew. He estimated that each cock of hay was enough better to pay the cost of the cap. He makes his cap of sheeting, a yard and a quarter or a yard and a half wide, tears it into squares, and with a tape needle puts a loop in each corner, and they are done. He applies these caps as follows: "Make four sticks about 18 inches long for each cap, let two hands at opposite corners draw the cap down tight over the cock—pass the stick through the loop and *up* (not down) into the cock of hay, and it will stand both wind and rain a month if you wish."

Proposed School of Agriculture.—We learn from a circular received through Mr. B. H. Streeter, of Clyde, N. Y., that Joseph Watson, Esq., President of the Wayne County Agricultural Society, offers his farm, for which he has received the first premium of that society, for the purpose of establishing an institution for education. The course of instruction to be pursued, is to "embrace all the branches of education usually pursued in academies and higher seminaries of learning, with Practical and Scientific Agriculture and Domestic Economy as the leading features of the Institution." The conditions of Mr. Watson's proposition are, that there shall be erected on the farm "suitable buildings and fixtures of the value of $5000, with proper arrangements for the future support of the school, and that the Association shall pay to him or his assigns, during the natural lives of himself and wife, the sum of $300 annually, and after the death of either, the sum of $150, and upon the death of both, the premises to become the property of the Association."

The farm consists of about fifty acres and is estimated to be worth $100 per acre. It is proposed to raise the sum of $5000 in shares of $100 each. We hope these praiseworthy exertions for the promotion of sound education, may be successful.

The Wheat Midge.—The *Rural New-Yorker* observes that "there can hardly be a doubt that this destructive plague has overrun Vermont and the eastern part of this State." The writer observes that he had "indulged the hope that there was some incompatability in our climate and the nature and habits of this great plague, as its prevalence in the great wheat growing region of the west would be almost equal to war, pestilence and famine." He also expresses the hope that it is "but local and transitory," in the western part of this state, as he has heard of but one instance of its appearance, and has not discovered it in any crops he has examined.

This insect was noticed in some of the eastern States, and in Lower Canada, nearly thirty years ago, and for many years its ravages were such that it occasioned almost an entire suspension of wheat culture in those sections. It has been gradually working its way westwardly; and four or five years since was so numerous in Onondaga and Cayuga counties, as to do much injury to the wheat. It has appeared within a few years in the more western districts of this state and in Ohio,—doing considerhble damage in that state the last season. Its prevalence in the eastern section of the country, has been gradually diminishing for several years; and the notice of this fact has encouraged the farmers to revive the culture of wheat, which in most instances has latterly, and especially the present season, been quite successful.

Prices of Agricultural Products.

[*Review of the Market for the last month.*]

ALBANY, AUGUST 19, 1850.

We have had another month of dull business, to be followed as is confidently anticipated by all, by an active demand for all kinds of produce from now to the close of the season.

FLOUR. There has been a moderate trade and Eastern demand for flour during the month, and prices of all descriptions have materially declined. This has been hastened by approach of the proceeds of the recent harvest, which in almost every part of the country has been bountiful beyond all former precedent. The sales during the month have been 20,000 brls at $4*a*4.25 for common State, $4 37½ *a*4.50 for fresh ground State and mixed to straight Western, $4.50*a* $4.62½ for fancy western. $4.87½ for fresh State from prime Canadian wheat, $4.87½*a*$5 for new Western, $5.25*a*5.37½ for old pure Genesee, $5.50 for new do., $5.75*a*5.87½ for fancy Genesee and $6*a*6 50 for extra do. Quotations are very irregular and show a decline of 50*c* to $1.00 on all descriptions, and the tendency is still to a further docline.

GRAIN. The receipts of new Genesee wheat have been free and the demand for the East and for New-York, is good; the samples received have been good, and those from Onondaga county from which section of the State but little is ordinarily received, are not only of prime qualities but the crop is reported as very large. Of new Western wheat we have no sales to report. The sales of all descriptions are 29,000 bush. at 80*c* for red Canadian, 92*a*95 for old Ohio, 125*c* for old Mediterranean, 140½*a*125*c* for old Genesee, 106¼ for new Mediterranean, and 130*a*126*c* new Genesee, the last sale having been made at the lower figure. In Rye we have no sales to report. Oats have been in fair demand and the market during the month has gradually declined; the sales are 78.000 bush. from store and Canal, closing at 40*a*41*c* for good lots, 37½*a*28*c* for damaged do, and 38*c* for Canadian. The demand for corn has been very steady and prices have been uniformly maintained; the sales are 150,000 bush. at 59*c* for damaged round, 61½*a*63 for Western mixed and 62*a*63 for yellow round, closing firm at the inside figures with an upward tendency.

FEED. The demand from the East for all descriptions of feed has been good; the sales have been 80,000 bush. at 10*c* for Bran, 11a14*c* for shorts, 14*a*16½ for second quality and 90*a*98 for middlings.

SALT. A fair trade demand at 10½*a*11*c* for bags and 100*c* for brls.

WHISKEY. The demand is in excess of the supply, the sales have been 1120 brls at prices ranging from 24¾*a*26½*c* for Ohio and S. P. closing firm at the higher figure.

HOPS. We notice light sales of the crop of 1849 at 16*c*.

WOOL. The sales during the month have been about 100,000lbs. at 32*c* for lambs, 35*c* for mixed and 35½*a*36*c* for mixed Oiho and Western New-York. The trade has not opened yet. The receipts by Canal are already 1,300,000 lbs. ahead of last year.

PROVISIONS. The trade is exclusively of a retail character and very dull. Quotations are nominal.

South Down Sheep.

THE subscriber offers for sale, this season, several pure bred South Down Rams, varying in age from lambs to 4 years old. Also several Ewes, from one year to four years old.

The Lambs and Yearlings of this flock, are from an imported Ram from the Duke of Richmond's celebrated flock.

Applications for the above Sheep may be addressed to the subscriber in this city. JNO. McD. McINTYRE.

Albany, August 12, 1850—3t

Greenhouse Plants, Vines and Roses.

PARSONS & CO. offer for sale every desirable variety of Greenhouse Plants, and many valuable novelties recently introduced from Europe.

Growers of Grapes are invited to examine their vineries, now in full fruit, from which they can furnish good vines, of about forty varieties, at

50 cents for those one year old,
75 " " two "
100 " " of extra size.

Their stock of saleable Roses includes some thousand on their own roots, of the Remontants, Bourbon, China, and Garden Roses, in their various sub-classes.

Catalogues furnished on application by mail to Flushing, near New York. Sept. 1—2t.

Fruit and Ornamental Trees, &c.

THE subscriber cultivates at his Nurseries, and has for sale at his residence, *Eustis-street*, Roxbury, Mass., all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees, Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, etc., etc., etc.

Also several thousand Pear Trees on the Quince—one, two, three, four and five years from the bud.

Particular attention paid to the cultivation of the Pear.

Persons wishing extra sized trees, *or trees on Quince stock in a bearing state*, will please call at the Nurseries and make their own selection.

30,000 Buckthorn Plants.

ORNAMENTAL TREES, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

The whole for sale at the lowest market price. Catalogues gratis to post-paid applicants. SAMUEL WALKER,

Roxbury, Sept. 1—3t. *Roxbury, Mass.*

Seneca Lake Highland Nurseries,

Catharine, Chemung Co., N. Y.

E. C. FROST, Proprietor.

FRUIT TREES of all kinds, ornamental Trees and Shrubs, Grape Vines, Hedge Plants. Box for edging, Strawberries, Dahlias, Green House Plants, &c., &c , in large or small quantities.

The Nursery and Standard Trees cover 40 acres.

The following varieties of Apples can be furnished:

THE WAGENER.—For this new variety, the N. Y. State Ag. Society awarded to Charles Lee, Esq., of Yates Co., the place of its origin, the highest premium in 1847, and again in 1848—also procured a colored plate for a frontispiece to its published Transactions and gave it a full description, in part as follows: "TEXTURE—*Fine grained, crisp and juicy.* FLAVOR—*Rich, sprightly, vinous, sub-acid and delicious.* SEASON—*From October to May, and a prolific bearer.*" By referring to Vol. 7th, page 60th of the Albany Cultivator, it will be seen that I have had the exclusive privilege of Mr. Lee's trees, and have taken scions from his—the original seedling tree—and also from others worked from it in the neighborhood, so that those ordering will be sure of the genuine variety. Price of this variety, 50 cents each, and Scions furnished only in small quantities.

THE HAWLEY or DOUSE.—For *flavor*, *size* and *productiveness*, this is believed to be the best Fall Apple known, either for dessert or market purposes. A description and outline can be seen in the Cultivator of April, 1847, from which we quote—"*Of all the varieties of Apples which have lately been brought to notice, probably none is destined to become more and deservedly popular than the Hawley or Douse.*" Also in the Horticulturist of July, 1847, Hovey's Magazine of Dec. 1847, and the Genesee Farmer of May, 1848. The latter, in describing it, adds—"*The first time we saw it was at the State Fair at Auburn in 1846, when it was exhibited by E. C. Frost, of Chemung Co., as the Douse. His specimens were monstrous, and we well remember the commotion it created among the pomologists present, to all of whom it seemed unknown.*" Trees 4 years from the graft, 50 cents each. Scions by the doz. or 100.

THE WINTER KING, is a very showy and productive apple, cultivated in this and Tompkins County, where it sells one shilling per bushel higher than that fine and well known variety, the Swaar—25 cts. per tree.

TOMPKINS APPLE.—Origin, Tompkins Co. An outline and description is given in the Horticulturist of Feb'y, 1848. Mr. Downing says—"*A large, handsome and productive autumn fruit, superior in flavor to the Porter. We commend it with confidence to the notice of amateurs and collectors of good fruit.*" Season—October and November—25 cts each.

In addition to the above four new varieties, among other standard sorts, are the following: Early Harvest, Large Sweet Bough, Summer Queen, Fall Pippin, Early Joe, Norton's Melon, Swaar, Baldwin, Northern Spy, Roxbury Russett, Ladies' Sweeting and Newtown Pippin.

Scions.—One or two dozen can be sent by mail with safety to any part of the Union, and larger quantities by public conveyance.

Pears and Plums are not affected with the blight.

Eastern fruit growers can procure Peach trees here, perfectly free from the YELLOWS, a disease to us unknown.

Trees carefully packed, and sent by public conveyance to any section of the U. States and Canadas.

Being on the Chemung Railroad, which connects the New-York and Erie, with the Buffalo and Albany route at Elmira and Geneva, this location for railroad facilities is surpassed by none.

Price Catalogues furnished gratis to all post-paid applicants, containing an engraving and full description of Wagener and Hawley or Douse apples. Sept. 1, 1850—1t.

To Fruit Growers and Nurserymen.

ELLWANGER & BARRY solicit the attention of all Tree Planters, Nurserymen and Dealers to their present stock, which is much larger and better than they have ever before had the pleasure of offering. It embraces among other things in large qauntities—

Standard Fruit Trees, of all sorts.

Dwarf and Pyramidal Fruit Trees, for gardens.

Gooseberries, Strawberries, Raspberries, Currants, &c., all the newest and best kinds.

Ornamental Trees, Shrubs, Roses, &c., including all new, rare and desirable articles.

Buckthorn, Osage Orange and other Hedge Plants.

Stocks of all sorts for nurseries.

Green House, Border and Bedding Plants.

Double Dahlias, &c., in immense quantities.

Wholesale prices furnished when desired.

A new edition of the general descriptive Catalogue is now ready and will be sent gratis to those who apply *post-paid*.

Mount Hope Garden and Nurseries, Rochester, New York, Sept. 1st, 1850—1t.

Apple Trees for Orchards.

MANY thousand fine Trees, mostly 7 to 8 feet high, *propagated in all cases from thoroughly proved or bearing trees*, for sale at the nursery of J. J. THOMAS, Macedon, Wayne Co., N. Y.

They embrace the best standard varieties, with nearly all the valuable new sorts; among them are Early Harvest, Sine Qua Non, Sweet Bough, Early Joe, Summer Sweet Paradise, Autumn Strawberry, Gravenstein, Dutch Mignonne, Rambo, Fall Pippin, Yellow Bellflower, Rhode Island Greening, Esopus Spitzenburgh, Northern Spy, Swaar, &c., &c.

Price, varying with selections, from *sixteen* to *eighteen* dollars per hundred—a first rate selection of summer, autumn, and winter fruit, of fifteen to thirty varieties, if made by the proprietor, furnished at *sixteen dollars* per hundred, or *seventeen* if well packed in matted bundles, and delivered at canal or railway. All orders to be accompanied with remittances. Sept. 1—3t.

Prince's

Linnæan Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & CO., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears, 50,000 trees can be supplied, of which 15,000 are of bearing age on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be elsewhere obtained. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

A wholesale Catalogue will be sent to all venders.

The transportation expense to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the possibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. Sept. 1, 1850—1t.

Brown's Patent Coupling for Hose and Pipes.

THIS valuable invention, (illustrated and described in this number of the Cultivator,) is offered for sale upon reasonable terms, in either Town, County or State rights. For further information address, (post-paid.)

A. HEYER BROWN,
Commercial Buildings, Albany.

September 1, 1850—1t.*

Prices Reduced.

WHEELER'S PATENT Rail Way Chain Horse Powers and Threshing machines, constantly on hand and for sale by the subscribers.

Price of one Horse Power and thresher, ...	$110
Price of two Horse Power and thresher, ...	135

Also EMERY & Co's LATEST IMPROVED POWERS and THRESHERS and CLEANERS at Manufacturers prices.

JOHN MAYHER & Co.
197 Water St. New-York.

Sept. 1—tf

Buffalo Nursery and Horticultural Garden.

THE Proprietor of this old established nursery solicits the attention of Fruit Growers, Nurserymen and others, to the unusually large stock of FRUIT AND ORNAMENTAL TREES, FLOWERING SHRUBS, &c., now offered for sale.

APPLE TREES —The assortment embraces nearly all of the most choice and truly valuable sorts worthy of a place in the orchard. [A very large number of varieties have been rejected.]

PYRAMIDAL DWARF PEAR TREES.—The stock on hand is very fine, of from one to three years growth; trees strong and vigorous—among them are the following: Bartlet, Louise Bonne d'Jersey, White Doyenne, Bloodgood, Golden Beurre of Billboa, Buerre de Arembergh, Flemish Beauty, Seckel, Van Mons' Leon le Clerc, Passe Colmar, Beurre Diel, Fondante de Automne, Onondaga, Beurre Langelier, Duchess d'Angouleme, Napoleon, Glout Morceau, &c. Also a fine assortment of standard Pear Trees of the most select old sorts, together with most of the new varieties.

PEACHES.—Some 5,000 trees, of the best market varieties—among them are the following: Early York, Early Tillotson, Walter's Early, Royal George, George the Fourth, Crawford's Early, Crawford's Late Melocoton, Grosse Mignonne, Walter's Early, Morris Red and White Rareripe, Noblesse, and many other sorts.

CHERRIES.—A fine assortment, mostly trained with low heads, some 50 varieties in all—among them are Black Tartarian, Elton, Downton, Coe's Transparent, Napoleon Bigarreau, Groffan Bigarreau, Knight's Early Black, Beauman's May, Early Purple Guigne, Downer's Late Red, May Duke, Butler's Yellow, &c. &c.

PLUMS.—A very fair stock of the most choice and valuable sorts.

APRICOTS.—Dubois' Early Golden, Moorpark, Breda, Musch Musch, &c.,

NECTARINES.—Boston or Perkins' Seedling, Golden Red, Roman, &c.

ALMONDS.—Ladies' thin shell, and others.

QUINCES.—Large Orange, Portugal, Pear-Shaped, &c.

GRAPES.—The best for the Grapery, and also the best for out door culture.

GOOSEBERRIES.—White Amber, Mammoth and others.

CURRANTS.—Large Red and White Dutch, White Grape, Naples, Victoria, Knight's Sweet Red and others.

STRAWBERRIES. Some 30 varieties, Burr's New Pine, Boston Pine, Large Early Scarlet, Hovey's Seedling, and some others are truly fine and prolific.

RHUBARB.—Early Tobolsk, Victoria, Wisconsin, Mammoth and others.

ORNAMENTAL TREES AND FLOWERING SHRUBS.—A large stock, Mountain Ash, Horse Chestnut, Silver Maples, &c., by the 100 or 1000 at very low prices.

EVERGREEN TREES.—A large collection of most beautiful trees, grown in the nursery. By the quantity, at low prices.

ROSES.—A very good assortment of Hardy Garden, Hybrid, Perpetual, Bourbon, Noisette, Moss and others.

HERBACEOUS PLANTS.—Many choice sorts—some beautiful new Phloxes, Tulips, Hyacinths, Dahlias, Peonies, &c., &c.

STOCKS.--Apple, Cherry, Plum and Quince stocks, and Nursery men and others will be supplied with trees of large or small size at reduced prices.

☞Orders by mail or otherwise will receive prompt attention.

Every article carefully labelled, securely packed and forwarded agreeable to order, and with the least possible delay.

Descriptive Catalogue (a pamphlet of 60 pages) gratis to all who apply, (postage paid.)

B. HODGE.

Buffalo, N. Y., Sept. 1st, 1850—1t.

Chapin's Portable Cider-Mill and Press.

THE advantages of this machine have already been realized in this State, and heretofore laid before the public, certified by a large number of reliable sources. It received, at the State Agricultural Fair at Syracuse in 1849, all the rewards and tokens destined by the Society for that class of implements, besides the constant applause of the crowd. Its utility is beyond a question, and can be warranted a source of positive profit to any one having sufficient employment for such a machine.

It was patented on the 21st of Nov. 1848, and well tried during the same season. It was again tested in the fall of 1849, on several occasions.

The small sized mills, which are designed to be conveyed and operated by hand, are capable of making from 3 to 6 barrels of cider per day, by the help of a man and boy.

The large size, which are drawn by a pair of horses, are capable of making from 12 to 20 barrels per day, with the help of two men and one horse.

The price of a large Mill and Press, and the right of a whole town for making, using and vending, does not exceed the cost of one of the ordinary old fashioned mills. As it is a traveling machine, no sales will be made without designating its limits by the lines of either states, counties or towns. Applications are solicited immediately, and a crowd of references will be furnished.

JACOB M. SWART, of Quaker Street Village, Schenectady Co., N. Y., Agent for Albany, Schoharie and Schenectady counties.

They are principally manufactured by the Patentee,

NATHAN CHAPIN,
West end of Warren St., Syracuse, N. Y.

Sept. 1, 1850—1t*

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

Agricultural and Horticultural Implements, and *Field and Garden Seeds.*

UPWARDS *of one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,
August 1, 1850.—tf. 189 & 191 Water St., New-York.

Emery & Co.'s

Latest Improved Railroad Horse Power, and Overshot Threshing Machine and Separator.

THE above cut represents this most useful machine, with the LATEST IMPROVEMENTS, ☞ *For which Patent is secured*, embracing some of great value and importance—which have suggested themselves from time to time as the various kinds made and sold by us have become worn, used and failed.

The most important of these consists principally in the mode of applying the power and motion from the endless platform to the shaft of the main Driving Pulley, and obtaining the necessary motion for the Overshot Threshing Machine, without crossing bands or intermediate gearings, and at the same time dispensing with the small pinions and cogs on the links of the endless platform,—thereby combining Greater Strength and Durability with lighter friction, without the liability of breakage of links, or the wearing of links and pinions,—(no small item in the expense of repairs in most other kinds of powers in use.) The farmer or mechanic is enabled to perform a greater amount of work, or to operate with less power or elevation, as best suits his wishes.

Having been long engaged in the Manufacture, Introduction, Sale, &c,, of the various kinds of Horse Powers, for different purposes, and at all times adopted such improvements as from observation and experiment have seemed necessary and desirable, we feel confident that in this Power, as now manufactured, all that can be desirable, is found to a greater extent than any heretofore sold by us, or with which we are acquainted, They were introduced to some considerable extent last season, and wherever used side by side with the most approved Powers of other kinds, have given unqualified satisfaction, and been preferred.

The Overshot Threshers and Vibrating Separators, with improvements, have been sold with like success as the Powers. They admit of a level feeding table, thus avoiding accidents, (which often occur with the inclined feeding board,) by preventing hard substances, sticks and stones from getting into the Machine and breaking Spikes, endangering those engaged with them. The Cylinder Shaft, (of Cast Steel,) runs in Bronze Boxes, which are so made of two parts as easily to be adjusted when worn loose, and can with little trouble, always be kept tight. The speed of the Power is such that a larger pulley is used on the Thresher than on most others—driving stronger, with less liability of slipping of Bands, which last are made of Vulcanized India Rubber. The Separator makes a complete separation of Grain from the Straw, leaving it in the best condition for the Fan Mill; thus saving the labor of several men, and doing the work better.

Fan Mills of various sizes, for Hand, or fitted to be driven by the Power, at same time of threshing. Also, Saw Mills in complete order.

The Double Horse Power is capable, with 3 or 4 men, of threshing from 125 to 200 bushels of Wheat or Rye, and the Single one from 75 to 100 bushels, or double that quantity of Oats per day. They are warranted to perform as above, or may be returned to us or our Agents, of whom they were purchased within 3 months, and the purchase money refunded.

They may be had in Rochester, Buffalo, or any of the principal ports on the lower or upper lakes, by adding transportation.

Good agents will attend to the sale of them in those places.

The prices will be, for Single Powers,..........	$85 00	
" Threasher and Separator,............	35 00	
" Bands, Wrench, Oil Can, extra pieces,	5 00—	$125 00
Best Double Machines, Complete, ($25 more on,)		150 00
Fan Mills, from........................	$22 to $28	
Saw Mill, complete....................	$35	
Also " Wheeler's" Machines, improved this season,		
Single Setts, complete, ...		$120 00
Double do. do.		145 00

Terms Cash, or approved Notes or Acceptances, with Interest.

To good Agents in new locations liberal terms will be given.

For further particulars, see new issue of Catalogue, or apply personally or by letter at the
Albany Agricultural Works, Warehouse and Seed Store, of
EMERY & CO.
September 1, 1850. 369 & 371 Broadway, Albany, N. Y.

Choice Sheep for Sale.

THE subscriber having determined to quit the farming business, offers his entire flock of Sheep for sale. They have been bred with great care for over 20 years, with a view to make them heavy and fine.

They now shear three and a-half pounds per head, and the wool sold last year, at the Kinderhook Depot, for 47 cents per pound. Specimens of them will be at the State Fair.

Also, one Imported Ayrshire Cow, with her last two calves, both heifers. DANIEL S. CURTIS.
Canaan Center, N. Y., Aug. 1—2t.

Albany Burr Mill Stone Factory.

ADAM R. SMITH, (late of Troy,) having located at the Corner of Broadway and Quackenbush streets, (three blocks above the Delavan House,) Albany, N. Y., invites the attention of Millwrights and others to the stock on hand, which, with his facilities for manufacturing, must render it advantageous for them to call upon him before purchasing elsewhere.

He keeps also, a large supply of Bolting Cloth, Screen Wire, Plaster of Paris, and other articles used in Milling, which will be disposed of on liberal terms.
August 1—3t.*

The American Live Stock Insuance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*
Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Farm and Stock for Sale.

THE subscriber will sell at auction, on the September next, (if not previously disposed of at private sale,) his farm, situated in Westminster, Vt., containing upwards of 200 acres, nearly 100 acres of which is alluvial land of the most productive kind, lying on the bank of the Connecticut river. He will also sell at the same time, the live-stock of said farm, consisting of about sixty head of superior neat cattle, mostly Devons, thirty South Down sheep, and fifty swine of Suffolk, Middlesex and Essex breeds.

Among the Devon cattle, are one very fine bull, two years old, imported from England; another, seven years old, purchased of Geo. Patterson, Esq., of Maryland; another, one year old, bred on the farm. Several of the cows are pure Devons of the very best blood and quality, and the whole lot were either selected, or bred by the subscriber with great care. Of the South Down Sheep, six were imported—others were purchased of Hon. Daniel Webster and Col. J. M. Sherwood; and these, with their descendants, constitute the flock. The older swine were mostly imported, and comprise the best specimens of their respective breeds which could be obtained in England. Their stock has now become well known in this part of the country, and is so much esteemed as to need no praise here.
Boston, Mass., August 1—2t. WILLIAM STICKNEY.

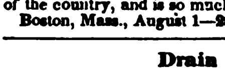
Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.
July 1, 1850—tf. A. S. BABCOCK.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.



THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.
May 1, 1850—tf. JOHN MAYHER & CO.,

Poultry Books.

THE American Poulterer's Companion, by C. N. Bement—price $1.

The American Poultry Yard, by D. J. Browne and Samuel Allen—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Hay, Straw, and Corn Stalk Cutters.

[illegible]HE Celebrated Patent Adjustable, Spiral Knife Hay Cutter. Premium Straight Knife Hay Cutter. All sizes, for Hand or Horse Power. Warranted.

Mediterranean Seed Wheat, of a choice quality and pure. This wheat is coming into very general use, and is much approved of.

Also, other varieties of Winter Wheat and Rye.

For sale at the Albany Agricultural Warehouse and Seed Store,
369 & 371 Broadway, Albany.
August 1, 1850. EMERY & CO.

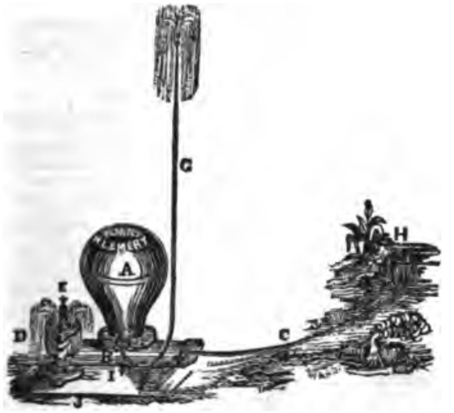
Wire for Fences,

ALSO Staples ready made, by the pound, at price of wire and 4 cents per hundred staples for making, (machine made.)

Our Wire is of the best quality of iron, used by our Telegraph Companies, &c., which needs no annealing whatever, in being worked.

It is a fact acknowledged by all wire manufacturers, that the process of annealing iron wire opens its pores to the effect of the atmosphere, lessens its weight 12 to 15 per cent., lessens its tenacity for tension 33 per cent., and destroys its elasticity. Fence makers will find it much cheaper to use tough, bright wire, in all cases, even at one to three cents per pound extra, than the cheaper qualities of iron at their value, which require annealing to be used.

Nos. 7, 8 and 9, for 5½ cents; Nos. 10 and 11, for 6 cts per lb.
August 1, 1850. For sale by EMERY & CO., Albany.



Hydraulic Water Rams.

THIS simple apparatus for elevating water from a spring or brook, has now been very extensively and favorably introduced, and enables the persons having a good spring of water below their buildings, to have a constant, never failing stream of water at any place desired, and so long as water will, of its own gravity, run down hill, so long it may, by this simple machine, be made to run up hill to any desired elevation. Full directions accompany each machine, enabling the purchaser to put them in operation himself, and all are warranted to operate satisfactori'y. Price from $8 to $25. For sale, wholesale and retail, at the

Albany Agricultural Warehouse of
EMERY & CO,
Aug. 1, 1850. 369 & 371 Broadway, Albany, N Y.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices.
Z. HOSMER,
April 1, 1850 —6t. 110 Milk St., Boston.

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G. Emerson, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

"We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed in premiums by Agricultural Societies. How much better, and in better taste, than the amount of its cost in money."—*J. S. Skinner.*

Sold by L. Tucker, Albany; A. Hart, Philadelphia; Derby & Co., Buffalo; W. D. Ticknor & Co., Boston; and the principal booksellers in the Union. Price $4. (Cost of the imported work in 1 vol. *without any plates*, $14.) July 1—tf.

Importation and Sale of Stock.

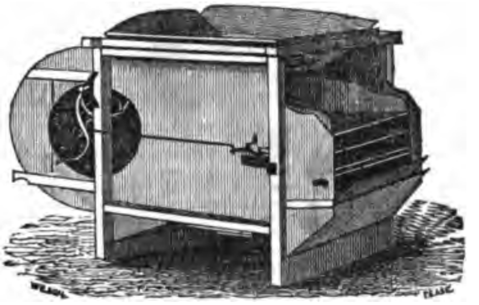
MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late Thomas Bates, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

June 1. 1850—4t.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,
Walpole, May 1—5t.* Agent for the Proprietors.

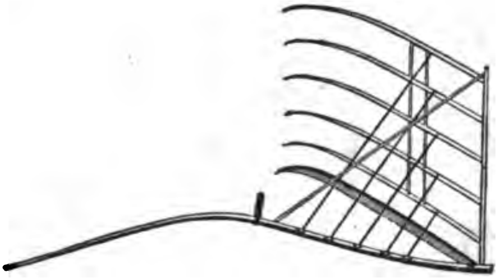


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention.
I. T. GRANT & CO.
Junction P. O., Rens. Co., 8 miles north of Troy
May 1, 1850—tf.

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Commercial Garden and Nursery of
PARSONS & CO.,
Flushing, near New-York.

THE proprietors of this establishment offer for sale their usual assortment of Fruit and Ornamental Trees, Shrubs, Vines, Roses, &c.

Their stock of Apples and Pears is finer than they have before offered. Also Pears on Quince, of their own growing.

The Ornamental department contains the usual well known varieties, and all the best new Trees and Shurbs, for lawns and arboretums, including the new Pines, Araucaria Imbricata, Cryptomeria Japonica, with Cedar of Lebanon, at one to two dollars each; and Cedrus Deodara, of various sizes, at one dollar per foot.

Catalogues furnished gratis on application by mail. Sept. 1—2t.

Great Sale of Fruits at Auction.

The Whole Stock of a Nursery to be Sold at Auction, Sept. 20th, 1850.

THE Proprietors of the LAKE ERIE NURSERY, Cleveland, Ohio, being about to make a change in their business, will sell their entire stock of Fruit and Ornamental Trees, Shrubs, Roses, &c. &c., at Public Auction, and without reserve, on the 9th and 10th days of October.

The collection embraces all the choice leading, and new varieties of Fruits, rare Ornamental Trees, Shrubs, &c., and in extent of variety and correctness to name, is probably surpassed by no Nursery at the West.

The stock of Pears on free stocks, and dwarfed on Quince, is very good, and also Cherries, Apples, Peaches, Plums, Grapes, Quinces, Currants, Raspberries, &c., &c.

Among the Ornamental Trees and Shrubs, there are plants from one year's growth to an extra size, and the stocks of Mountain Ash, Scotch Larch, Deciduous Cypress, Norway and Silver Maples, European Lindens, Horse Chestnuts, Kentucky Coffee Trees, Garland Deutzia, Daphne Mezereon, Monthly Chinese Evergreens, and Tree Honeysuckles, &c., &c., are especially good.

The stock of Evergreens is large, and most of them having been twice transplanted, they are in an excellent condition to be removed.

The sale will be made in lots of from 10 to 100 trees or plants in each lot. The correctness of varieties may be relied upon, and purchasers can have the privilege of removing their trees at any time previous to the 20th of May, 1851.

The purchaser can dig and remove his trees himself, or the proprietors will do it for him, charging him the usual price of packing, &c.

The terms of sale, unless otherwise agreed upon with individuals will be as follows—

For all sums under Twenty Dollars, cash.
Over Twenty and under Fifty, 30 days.
Over Fifty and under One Hundred, 4 months.
Over One Hundred, six months, approved Notes payable at Bank.

Catalogues will be issued about the 15th of August, which we shall take pleasure in forwarding to any persons who may desire. All communications of enquiry, &c., addressed to the subscribers will meet prompt attention.

ELLIOTT & CO.,
Sept. 1—1t Lake Erie Nursery, Cleveland, O.

Fruit and Ornamental Trees,
at the Nursery of J. J. THOMAS, *Macedon, N. Y.*

MOST of the Trees are of large, handsome, and thrifty growth, and they embrace careful selections of the best sorts of Apples, Peaches, Pears, Cherries, Apricots, &c., with the smaller fruits.

When purchasers desire, selections will be made by the proprietor, so as to afford a regular succession of the best varieties throughout the season; and all may be relied on as strictly true to their names, *the proprietor having for the past fifteen years invariably adhered to the rule of selling none but* THOROUGHLY PROVED *sorts.*

A carefully assorted collection of hardy Ornamental Trees, Shrubs, and Herbaceous Perennial Plants, furnished at moderate prices.

Trees for canal and railroad well packed in bundles, enclosed in strong mats, with roots mudded and encased in wet moss, so as to preclude all danger of injury.

All communications, *post-paid*, to be directed Macedon, Wayne Co., N. Y. Sept. 1—2t.

To Nurserymen, Dealers, and others.

THE subscriber offers for sale at the *American Botanic Garden and Nursery*, Waterloo, Seneca Co., N. Y., (4½ miles northwest of Waterloo, on the Vienna road):—

20,000 American Balsam Fir.
10,000 Spruce, Red, White, &c.

Also various other Native and Foreign Trees, Shrubs and Herbaceous Plants, together with a choice selection of Fruit Trees.

Native Trees and Plants to order.

Orders promptly executed, and Trees and Plants packed for safe transportation to any part of the United States, Canada and Europe.

Sept. 1—2t. W. S. DELL

Allen's Improved Portable
Railroad Horse Power, Thresher and Separator.

THE advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motion of the horse and machine by means of a brake, by which accidents are avoided. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c. drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain, but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator*, high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact, and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,	$60
" " Thresher,	$28
" Separator and fixtures,	$7
" Bands for driving, etc.,	$5
" Wood-sawing machine, complete, and in running order,	$35
Price of double Power,	$100
" with Thresher, Separator, &c.,	$145 to $150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

A. B. ALLEN & CO.,
Aug. 1—9t. 189 & 191 Water Street, New-York.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per ann.—7 copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

☞ The back vols. can be furnished to new subscribers—and may be obtained of the following Agents:

NEW-YORK—M. H. NEWMAN & Co., 199 Broadway.
BOSTON—J. BRECK & Co., 52 North Market-st., and E. WIGHT, 7 Congress-st
PHILADELPHIA—G. B. ZIEBER.

ADVERTISEMENTS—The charge for advertisements is $1, for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, OCTOBER, 1850. VOL. VII.—No. 10.

Fattening Animals.

THERE is a great advantage in commencing the fattening of animals early in the fall. There are many articles on a farm which may be profitably used at this season, but which, from their perishable nature, would be lost, or greatly depreciated in value, by long keeping. Early apples, squashes, pumpkins, unmerchantable potatoes, and unsound corn, should be used first. But besides the advantage in saving these kinds of food, there is another important argument in favor of early fattening; the same amount and quality of food will go farther, or will produce a greater amount of meat, in mild weather, than in cold—less food being required to supply the waste of the animal system under a mild temperature, than under a low one.

Experiments have established the fact that for *swine* there is a great advantage in cooking food. This advantage results in two ways; first, from the aid which the cooking process affords to the organs of digestion, by bringing the nutritive properties of the food into a condition in which they may be more easily assimilated; second, by rendering food more palatable, so that some articles, which would be rejected in a raw state, are, when cooked, eaten with avidity.

The actual saving or gain by cooking, depends on many circumstances, and perhaps has never been ascertained with mathematical accuracy. Indian corn may be fed liberally to hogs, in a raw state, before it becomes fully hardened, and they will extract the nutriment from it pretty thoroughly; but after it is seasoned and dried, it cannot be used to advantage (except when fed in very small quantities) without being ground, or softened by soaking or cooking. The grinding is doubtless best; and if swine are to be *full-fed*, there would then be considerable saving in cooking the meal, over feeding it raw. Some observing and careful persons have estimated this saving at one-fifth the value of the food, and others at more. The remarks in regard to Indian corn, will apply to other kinds of grain that may be used as food for swine. In fact the *general* advantages of cooking food for these animals, is admitted by most authorities. The *Book of the Farm* observes—"By direct experiment, it has been ascertained that pigs fatten much better on cooked than on raw food. This being the case, it is only a waste of time and material, as also loss of flesh, to attempt to *fatten* pigs on raw food of whatever kind; for although some sorts of food fatten better than others in the same state, yet the same sort, when cooked, fattens much faster and better than in a raw state. The question, therefore, simply is—what is the best sort of food to *cook* for the purpose of fattening pigs? Roots and grains of all kinds, when cooked, will fatten pigs. Potatoes, turnips, carrots, parsnips, mangel-wurtzel, as roots; and barley, oats, peas, beans, rice, Indian corn, as grain, will all fatten them when prepared."

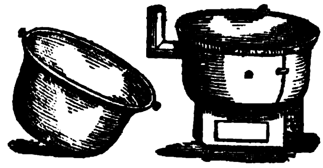
Swine are benefitted by being fed with different kinds of food. They, like most animals, when left to themselves, feed on various plants and substances. This variety is doubtless promotive of their health and thrift; it excites the appetite, and their food is consumed with less waste. We believe, also, that the quality of pork is improved by a mixture of food—that swine fed with food composed of vegetables, fruits, and grain or meal, with dairy slops, will make better pork than those which are fed entirely on Indian corn. The cooking of food probably tends further to the improvement of the quality of the pork. Indian corn contains a large proportion of oil, and when swine are fed with a large quantity of this grain in a raw state, it is not improbable that the oil is assimilated in a greater proportion, comparatively, than the other constituents; and this may partly account for the fact that "western pork," which is produced almost entirely from corn, is generally more oily than eastern.

The feeding of swine with fermented food has been frequently recommended, and some who have practiced it have spoken favorably of its advantages. We apprehend, however, that erroneous ideas on this point are often entertained—especially in regard to the degree to which fermentation should be carried in food. Chemistry teaches that fat may be derived from sugar, and hence the presence of sugar in the food of animals, is important. Now the result of the first fermentation of vegetable substances—the saccharine—is the production of sugar; it is obvious, therefore, that the development of this property in the food may tend to the accumulation of fat in the animal.

The remarks of Dr. THOMSON, in regard to the formation of fat may be properly introduced here. He says—"There is another constituent of the animal body, namely, fat, the production of which deserves notice. It is not an organised tissue, but is formed and collected in the cellular tissue under certain circumstances. These are rest and confinement,—that is, a deficiency of oxygen, and abundance of food containing a considerable proportion of non-azotised matter, such as starch, sugar, &c. Now the chief source of fat is sugar, the composition of which is such that when deprived of oxygen fat remains."

From this reasoning it is evident that the fermentative process, in substances designed for food, should not be carried too far; it should not be allowed to run into the *acetous* stage, as that would convert the sugar into vinegar, a substance which can afford no fat. It is well to prepare the food beforehand, and in such quantities that it may be brought into the proper state at the time it is given to the animals.

As to the manner of cooking, and apparatus for the same, perhaps there is nothing preferable to Mott's Portable Furnace, a cut of which is herewith given. It will answer either for boiling or steaming. "It is formed of cast iron, and is of itself both stove and boiler. The boiler is shown in the cut as detached from the stove; its form is such that the fire passes completely round the kettle or boiler, the space being some two to three inches between the outside or stove and the boiler. This causes the water to boil very quickly, and with very little fuel, saves all the expense of masonry and brickwork, as a funnel or stove pipe is all that is necessary to give it a draft for all purposes."


Mott's Furnace.

As a general rule, we think boiling is quite as convenient and economical as steaming, and where meal is to be mixed with vegetables or fruits, the former is preferable, as the meal can be added when the mass is sufficiently cooked to admit of a ready mixture. The water will be taken up by the meal, which, being thoroughly stirred in, will become cooked with the rest. In moderate weather, the food may be transferred from the boiler to wooden vats, as soon as it is cooked. A considerable quantity may be thus prepared at a time, and it may be allowed to pass into that stage of fermentation which is proper for developing its nutrient properties.

Articles which are of the most perishable nature should be used first. Squashes and pumpkins, when well ripened, constitute a nourishing food, for cattle or swine. For the latter, it is best to cook them. They should be boiled in as little water as will answer, and when soft, they should be mashed fine, and about one-fourth of their bulk of meal intimately mixed in. This kind of food, with a little skimmed milk or whey, will fatten swine very fast; and for two months, or from the middle of September to the middle of October, we scarcely know a better article for feeding stock, taking cost of production and value into consideration.

It has been before observed that a variety of food is useful for fattening animals; and in fattening hogs, we prefer mixing the different articles at the time of cooking. The writer has formerly used the following mixtures with good success:—1. Two parts potatoes and two parts pumpkins; boil together till they can be easily mashed fine—then add one part meal, stirring and mixing intimately together. 2. Two parts potatoes, and two of ripe palatable apples—either sweet or sour; boil till they can be mashed fine; then add one part meal—(either that from Indian corn, barley, or oats and peas, allowing the same weights)—mix the whole together while the potatoes and apples are hot. Whatever dairy slops are to be used, may be mixed with the other cooked food when it is taken from the boiler, and the whole may be fed together.

The above remarks on feeding with cooked food, refer to swine; for fattening cattle, it is not certain that the use of cooked food would be attended with results sufficiently advantageous to defray the extra expense. Except when fed with whole grain, it is believed that cattle extract the nutriment from their food, more perfectly than swine. We may not be able to assign the direct cause of this, though it results, doubtless, from the different organization of the animal. The intestines of the ox tribe, are much longer than those of swine, which probably increases the absorption of nutriment; and the process of rumination may afford still further advantages in this respect.

There is, however, one kind of cooked food for cattle, which seems to have been used with advantage England. It is commonly known as "Warnes' Compound." It is prepared, with little variation, both for sheep and cattle, as follows:

For *sheep*, a quantity of flax-seed is first reduced by a mill or a machine. Put 168 lbs. of water into an iron boiler, and as soon as it boils, stir in 21 lbs. of linseed meal; continue to stir it for about five minutes, then let 63 lbs. of crushed barley or Indian corn meal be sprinkled by the hand of one person upon the boiling mucilage, while another rapidly stirs and crams it in. After the whole has been carefully incorporated, which will not occupy more than five or ten minutes, cover it down and throw the furnace-door open. Should there be much fire, put it out.

For *cattle*, the same process is to be observed, but the quantity of water is reduced to about 150 lbs. It is stated, also, that the seed and grain should be more finely reduced for cattle than for sheep, as sheep chew their food better, and more thoroughly digest it. The compound is put while hot into shapes like brick moulds. Several of the boxes are made together, in one frame—the frame being about 28 inches long, and ten wide, with neither top nor bottom. When used, it is placed on a board, which should be a little longer and wider than the frame. The "compound" is pressed into these moulds, and afterwards left to dry. Potatoes, carrots, turnips, or mangel-wurtzel, boiled and incorporated with the linseed meal, form a compound upon which cattle fatten with great rapidity.

The compound is given in small quantities at first. During the first week five to seven pounds per day are allowed to each bullock, and after that time, the quantity may be increased to fourteen, and finally to twenty-five pounds per day.

Mr. Colman, who, while in England, saw the "compound" prepared, and had some opportunity to learn its value, observes—"I place the fullest confidence in the statements of Mr. Warnes. From my own experience and observation, I am convinced that no more nutritious or fattening food can be given to animals, swine excepted, (as it gives an unpleasant taste to the pork,) than cooked linseed or flax-seed jelly, in certain proportions; and it may be mixed with cut hay, or with various other articles of food, with equal success."

We have known some trials made with flax-seed prepared in a manner similar to the above, in fattening cattle, and the results have been very favorable. But the article commonly used in stall-feeding, in this country, is Indian corn meal. In the western states the corn is usually fed with the stalk—being cut up and placed in shocks for that purpose, soon after the grain begins to harden. Raw Indian meal is, however, a very *hearty* food, and when an animal is fed with a large quantity, day after day, it is very apt to cloy. This is owing in a great degree to its lying in too solid a mass in the stomach, and to its not affording sufficient distension to the intestines, to produce a proper action of the absorbent vessels. To remedy this, it has been found useful to mix the meal with some light substance, which permits the juices of the stomach to penetrate it; and which will at the same time give the requisite bulk to produce a healthy action of the viscera. This insures the thorough extraction of the nutriment of the food, and the greatest thrift and gain of the animal.

The grinding of the cob with the grain answers, in a good degree, the purpose above mentioned. It has been ascertained, also, that the cob of itself is capable of affording considerable nourishment to the animal. Dr. SALISBURY in his *Prize Essay on Indian Corn*, observes :—" By rejecting the cobs of 1,000 lbs. of dry ears, about 200 lbs. of organic matter is lost, which consists of 13½ lbs. of sugar and extract, 127½ lbs. of fibre, 45½ lbs. of matter separated from fibre by a weak solution of potash, 1½ lbs. of albumen, .288 of a pound of casein, 2.31 lbs. of gum or dextrine, 1.8 lbs. of resin, and 7.4 lbs. of glutinous matter. Hence the cob, although not rich in nutritive matter, can by no means be said to be destitute of those proximate principles which go to support respiration, and sustain animal heat, and those which are capable of being transformed into nerve, muscle, &c., and the phosphates which contribute so largely to the formation of bone."

By the mixture of the cob with the meal, therefore, we obtain the two-fold advantage of having the meal more thoroughly digested, and of saving the nutrient qualities of the cob. Mixing meal with cut hay, straw, or chaff answers a good purpose. It is necessary that the fodder should be dampened with water, so that the meal will adhere to it, and it may be easily mixed together with a fork. A full-grown ox will eat from eight to ten quarts of meal per day, which is usually divided into two equal parts, one given in the morning and the other in the evening. If the meal has the cob mixed with it, or is mixed with cut hay, the quantity may be somewhat increased. The feeder should, however, carefully watch the appetite of each animal, and be sure to give no more than is eaten.

The feeding of vegetables to cattle in connection with meal, is beneficial. Potatoes, turneps, beets, or apples, tend to prevent the heating effect of the meal—they sharpen the appetite, assist digestion, and promote the general health of the animal. It is the opinion of some observing feeders, that half a bushel per day of either of these articles, given in addition to the usual quantity of meal, will increase the gain thirty per cent.

To obtain the greatest benefit from the food eaten, the utmost regularity should be observed in feeding. The quantity given at a time should be just what the animal will eat with a good appetite and no more and the meals should be at regular intervals. It is believed that cattle kept constantly in the stall and in a temperature of about 70° F., will fatten faster than those which run in yards with sheds for shelter. At all events, the animals should be kept easy and quiet, as quietude conduces much to the secretion of fat.

APPLES.—The Berkshire *Culturist*, in copying our remarks on the "nutritive properties of apples," observes—"We have taken from the Cultivator an article on the value of apples, which, it appears to us, will be read with much interest at this time. We hold apples in high estimation as food for stock of all kinds. The negro at the South is no surer to fat in the sugar-making season than the farmer's boy in the season of apples. Of those who talk about half an apple after dinner, we have nothing to say. They know nothing about eating apples. But he who eats them in the good old fashioned way is sure to grow fat, unless his stomach has been vitiated by sickness or change."

Letters from Prof. Norton—No. 10.

On the Importance of Extended Chemical Investigations, continued.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., August 27th, 1850.

MESSRS. EDITORS—In the latter part of my last letter, I commenced some remarks on the importance of extending Chemical Researches, which I now design to explain and illustrate more fully. The examination of wheat was mentioned, and the advantage shown of having numerous analyses made upon different specimens. Let us suppose for a moment, in continuation of this reasoning, that but one variety had been examined, and that variety grown upon always the same soil; this wheat would have invariably about the same composition of ash. If there were much soda and very little potash in the soil, it is probable that the proportion of soda in the ash would be largest; perhaps the potash might be but a mere trace. Hence it would be natural to conclude, that manures rich in soda should be employed for this crop, in preference to those containing chiefly potash. Examinations of other samples from other localities, however, would show in most cases a reversal of this supposed rule, and a preponderance of potash in the ash.

This is comparatively but a trifling instance, yet it is sufficient to illustrate my meaning. One or two cases in succession of finding most soda, might seem conclusive evidence, but twenty examinations might prove just the reverse to be true. I heard at the meeting of the Scientific Association, in this place last week, a few words from Prof. A. D. Bache, which occur to me as particularly applicable here. A discussion had arisen relative to the comparative liability of different trees to be struck by lightning, and had been spun out to a great length, eliciting various contradictory opinions, all founded on actual observation. Prof. Bache then said, that some years ago, being on an exploring and surveying expedition, he spent a long time in the woods, and directed much attention to this point; noting as he passed along, the kind of each tree that had been struck. At the end of two or three days, on looking over his list, he supposed that he had established a law, but at the end of a *month*, he was perfectly convinced that he knew nothing about it. So the chemist, as he gains experience, often finds himself really in the dark upon points that appeared perfectly clear when he first commenced studying; as our knowledge increases, so does our consciousness of the comparatively limited sphere of its extent.

The accumulation of materials already made in the departments of chemistry, and of vegetable physiology, although in themselves great, are, in comparison with what is to be done, almost trifling. Wherever the intelligent, practical man turns his attention, he is met by difficulties for which there are as yet no remedy; and in all directions his inquiries are sooner or later brought to an end, by the assurance that such and such points have not yet been investigated. If he thus perceives that there is still so much to be done, how much more must this be apparent to the scientific laborer, who sees in every direction subjects of the most interesting and important character, all seeming to demand his attention at once, and who throws open, by each new research, fresh fields for exploration.

I have made chemistry more particularly the subject of this letter, because it, in my opinion, is decidedly the leading feature of scientific agriculture.

The other departments of natural history, all to a greater or less extent depend on the illustrations and explanations of chemistry, for their practical applications to agriculture. Geology, for instance, is of very great importance; a knowledge of the different rock strata, gives great facilities in improved cultivation, explaining away difficulties, and suggesting economical methods of improvement. But when we come to examine more closely, we find that the aid of chemistry has been called in. It is said, for example, that the soil formed from a particular rock, may be brought into good condition by the use of lime, while that of the rock immediately below or above, is not benefitted at all by its use. How is this information obtained? The answer is, only by the aid of chemical analyses.

So also in botany: the knowledge which we desire from a classification of plants, and from studying the nature of their growth, derives its practical value from the calling in of chemistry to analyze the various species, and the various parts, to determine their precise properties. I might go on thus through other branches of science; even meteorology is connected closely with chemistry, inasmuch as the changes of temperature, dryness or moisture, rain and snow, and even electricity, all influence plants chiefly as they bring about certain chemical changes, which bear more or less directly on their nutrition and growth.

Thus the range of the agricultural chemist is almost co-extensive with the whole field of natural science; his vocation does not alone consist in analyzing soils, seeds and manures, as most persons seem to suppose; he has to study nearly all the phenomena of nature.

It is then obvious, that men who are to benefit the practical agriculturist in his methods and his ordinary pursuits, must not only be industrious and persevering, but highly educated. It seems a very simple thing to say that sulphuric acid is an excellent manure for some plants, but the labor and the attainment of scientific experience among different classes of crops, necessary to fully establish this fact, may have occupied many months. All purely chemical investigations are extremely slow in their progress. A single *thorough* analysis, of an ash for instance, cannot be well done in much less than a fortnight; and then the result obtained ought never to be relied upon absolutely, until fully confirmed by a second analysis. It is true that two analysis may be carried on at once, but even with this advantage, he is a most successful analyst who produces two or three really first rate, verified ash analyses, in the course of a month. I speak of analyses in which every constituent is separated.

It has seemed to me necessary to explain these matters at some length, in order, if possible, to turn the public mind in the right direction before any large institutions are established, having the improvement of agriculture for their main or sole object. Each State *ought* to have such an institution, planned and endowed on a liberal scale. I am not to be understood as wishing to interfere with smaller schools; those can be founded by private enterprise, and have their proper field. A State institution should be of a higher class, just as a college is higher than academies, and one of its leading objects should be to train up well qualified teachers, to fit them thoroughly for taking charge of the lesser seminaries.

If the State of New-York were to found to-morrow, an agricultural school in each county, or in every two counties, the men could not be found in the whole United States entirely competent to take charge of them. There are good farmers enough to undertake the practical departments; but there are *very few* well instructed scientific men trained in this branch of study, who would be able to satisfy the wants of the farmers. Such men are greatly needed, and the demand is increasing far faster than the supply. All of those who have studied at this laboratory, and who desired employment, found it readily in most cases, sometimes even before their studies were completed.

As I hinted before, it is my desire to urge, that in State institutions there should be attention given to the higher departments of scientific investigation. In all of the schemes that have fallen under my notice, there has been a high place given to a professor of chemistry; in most cases he has been named as the head of the establishment. This professor of chemistry, besides having a general supervision of students, laboratory, farm, business matters, &c, would be called upon to lecture in every part of his own State at least, and to answer numberless inquiries upon every conceivable topic that could be connected, even remotely, with agriculture.

How much time would such a person have for pursuing extended and dificult researches?—obviously none at all, unless possessed of energy and force of character almost superhuman. I would suggest, therefore, the appointment of a chemist, whose sole business it should be to pursue investigations calculated directly or indirectly to benefit practice. Get the right man, and let him devote one, two, or more years, to a subject if necessary; furnish him with every necessary, and pay liberally enough to secure undoubted skill and talent. There are many print works and woolen mills in this country, that pay readily two and three thousand dollars a year to a chemist, who is engaged inventing new processes, analyzing their materials, &c.; ought not the farmers of a State, in consideration of the interests involved, to afford as fair a remuneration as a single corporation? I propose this addition as one worthy of consideration by all who are interested in the various State movements now commencing.

Yours truly, John P. Norton.

Report on the Trial of Plows,

By the New-York State Agricultural Society at Albany, June, 1850.

The Committee on the Trial of Plows, for the New-York State Agricultural Society, report:

That in pursuance of the directions of the Society, they assembled in the city of Albany, on Monday the 3d day of June, 1850, and immediately proceeded to perform such preliminary duties as would be necessary for the success of the ensuing trials.

On Tuesday, the 4th, the trial of the Plows commenced, in competition for the following premiums offered by the Society, viz:

Best sod plow for stiff soils, furrow not less than seven inches in depth, nor over ten inches in width, Diploma and	$15 00
Second best do,	10 00
Best sod plow for light soils, furrows not less than 6 inches deep and 12 inches wide, Diploma and	15 00
Second best do,	10 00
Best plow for "fallows" or old land, Diploma and	10 00
Second do,	8 00
Best sub-soil plow, Diploma and	8 00
Best side-hill plow, Diploma and	8 00

The first trials were on fallows or old land, on the farm of J. Lansing, at Greenbush. The field selected was hilly; the soil was a stiff loam, inclining to clay, mingled with stones of various sizes. There had been almost continuous rains for three weeks previous, and the ground was, for the most part, thoroughly saturated with water, and the greater portion of it had been recently covered with a coating of long manure.

In consequence of the inequalities of the surface of the field, there was necessarily a diversity in the various lands and sections,—some being more stony, wet, or adhesive, than others. This source of fallacy was guarded against by your committee as far as they could, by taking copious notes of the physical condition of the differest lands, and making due allowances when determining the awards. The vegetable matter on the ground was not sufficiently thick to prove any serious impediment to the operation of the implements. After the competitors had drawn for the number of their lots, the following rules for regulating the awards were announced in the hearing of each competitor:

Rules Regulating the Trial.—In deciding the general question—What are the best plows? the committee will be governed by the following principles: 1st, the character of the work performed; 2d, the power required in draught; 3d, quality of materials, durability and cost of the implements.

For *stiff soil*, excellence of work shall consist, first, in leaving the furrow slice light and friable; second, in so disposing the sod and all vegetable matter as to ensure its ready decomposition.

For *sandy soil*, or that which is already too light, the points in regard to work will be, first, thoroughly burying the vegetable matter; and second, leaving the ground generally level.

For *fallows*, or old land, the principle in reference to the quality of the work will be, the thorough pulverization and friability of the soil.

In determining the power required in draught, the most perfect instrument will be used, and the trial will be conducted in the most careful and thoro' manner.

The same implement for testing draught, and the same team will be used for all plows in the same class.

The plows may be held by the competitors, or persons appointed by them, as may be preferred.

The trial being open to competitors from any part of the world, fourteen plows were entered for premiums.

Old Land Trials.—Before commencing the work the committee passed the following resolution, viz:

Resolved, That the Plow which effects the most thorough pulverization and inversion of the soil, with a depth of furrow of seven inches, shall be deemed to make the best work.

Name of Competitors.	Name of Plow.	Name of Plowman.	Dft.	Wt. Plow.	Price Plow.
A. Fleck	Wilkie's Scotch,	M. Hutchinson	487	175	$28.00
French & Smith	Michigan Sod&Sub-soil,	J. Brydon	406	174	13.00
Eddy & Co.	Washington co. Iron Beam D.	S. R. Mott	439	112	10.00
—— Randerson	Schodac,	—— Randerson	342	109	8.00
Minor & Horton	Peekskill No. 21,	J. Mooney	363	107	7.50
Starbuck & Co.	Trojan No 5,	—— Smith	379	109	9.00
P. Auld	Improved Scotch,	T. Williams	373	116	9.50
Prouty & Mears	Centre draft No. 5½,	J. Mooney	383	119	12.00
Bosworth, Rich & Co.	Iron Beam D.	T. Leonard	425	102½	8.50
—— Finch	Empire A 3,	M. M. Webster	456	99½	10.00
H. L. Emery	Albany,	H. L. Emery	427	133	10.50
W. U Chase	Amsterdam No. 6,	J. Mooney	343	129½	
E. J. Burrall	Shell-wheel,	E. Smith	350	126	11.00
Prouty & Mears	Connecticut Valley,	J. Mooney	525	99½	10.50

The lands were marked out 162 feet long and 23 feet wide. The preceding table exhibits, 1st, the name of the proprietor of the plow; 2d, the name of the plow, 3d, the name of the plowman; 4th, the draft of the plow; 5th, the weight of the plow; and 6th, the price.

While the plows were in action, they were carefully watched by the committee, and every circumstance which they deemed essential was noted. The appearance of the land after plowing, its friability, the comparative time of drying, the amount of vegetable matter left uncovered, were then carefully examined. The result of their observations is summed up in the following remarks:

A. **Fleck's** *Wilkie's Scotch Plow.*—Performed work in a handsome manner; the furrows were high set, and their form was well adapted to cover the seed with a friable soil after it had passed under the action of the harrow. The materials of the implement were of the best quality, being wholly of iron, and all the portions of it, except those exposed to the abrasion of the furrow-slice, appeared almost indestructible. In our opinion it is liable to the following objections: 1st. Its draft is heavy. 2d. Its weight makes it too laborious for the plowman to handle, particularly where the furrows are short, and the turnings are consequently frequent. 3d. Its price is too great for the means of ordinary farmers. 4th. It requires a more thorough training on the part of the plowman than is ordinarily attained by the farmers of this country. 5th. The bottom of the furrow is left uneven, that portion of the bottom contiguous to the land-side, being deeper than the portion nearest the furrow side. It is evident that this cut gives less friable earth adapted to the exigencies of the crop than if it were level at the bottom.

French & Smith's *Michigan Sod and Sub-soil.*—We shall not notice this plow minutely in this connexion, reserving our remarks for a subsequent part of this report.

Eddy & Co.'s *Washington Co. Iron beam D.*—This is a strong and well made plow; the beam is of wrought iron, and we should suppose from its construction, that it was well adapted for very rough and stony land. Its draft is heavy, and the mould-board presses heavily on the upper and lower edges of the furrow, so as to leave the surface exposed after plowing, curved, from the effect of the pressure. This peculiar action not only expends power wastefully, but packs the earth which ought to be pulverized.

Randerson's *Schodac Plow.*—The good qualities of this plow were brought out in the fullest relief by Mr. Randerson, whose expertness as a plowman was particularly observed. The lightness of draft of this plow is very remarkable; this was seen as distinctly in the action of the team as from the indications of the dynamometer. It also possesses another quality which will recommend it to many farmers; it can be used by an inexpert plowman with better effect than most of the plows exhibited; it runs easily without turning towards the land or from it, and when once gauged, it keeps the required depth with great steadiness. Since good plowmen are procured with so much difficulty in many places, this quality of the plow will prove of great value. With these qualities, it fails in its pulverizing action; the furrow-slice is simply turned, with scarcely any comminution of its particles, and it does not bury the grass and other vegetable matters on the surface, with that thoroughness which good husbandry requires.

Miner & Horton's *Peekskill Plow, No.* 21.—Those of your committee who have watched the operation of plows for several years in succession, which have been exhibited at our annual fairs, are no strangers to the excellence of this implement. It is constructed throughout by a rule, which was exhibited to some of the members of your committee several years ago. At each successive exhibition, competitors have approximated more and more closely to this plow, and the great excellence of many of the plows manufactured in this State, is due to the skill and ingenuity of Messrs. Miner & Horton. No. 21 turns an excellent furrow, surpasses most in pulverization, buries the vegetable matter well, is strong in its construction, durable in its materials, moderate in price, and light in its draft. But in our opinion would be improved, by an apparatus by which the breadth and depth of its furrow could be more readily and accurately adjusted.

Starbuck & Co.'s *Trojan No.* 5.—The proprietors of this plow were unfortunate in drawing their lot, as it was undoubtedly the worst on the ground. It was situated at the base of a side hill, receiving its drainage. At the time of the trial it was very wet, excessively stoney, and covered with a ranker herbage than any other lot on the field. The confidence of the proprietors in the excellence of the implement was very strikingly exhibited by their submission to its being tested without the slightest remonstrance under circumstances so decidedly unfavorable. It is undoubtedly difficult for any judges to make a proper allowance for these inequalities in the physical condition of different lots, and it is possible that injustice may be done in spite of the greatest care and impartiality; but your committee in making their award, endeavored, individually, to be "fully persuaded in their own minds." *Trojan No.* 5 is undoubtedly an excellent plow, and in its capacity for turning under weeds and stubble, *without choking*, is probably unsurpassed by any plow at the exhibition.

P. Auld's *Improved Scotch Plow,* made good work. It seems well adapted to adhesive soils, as from its form and the quality of the metal used, it will *scour* well. It lacks the apparatus for proper adjustment, which renders it somewhat difficult of management.

Prouty & Mears, *Centre Draft, No.* 5½.—This plow possesses an extraordinary combination of excellencies. The point or share presents a gradual, easy rise of the furrow to the mould-board, which is on a gentle spiral curve, in its transverse and diagonal sections, and of such length as to insure a free and easy delivery of the furrow at its after end, and not requiring the foot of the plowman to prevent its falling back from whence it came, and having the cohesion of its particles so far disturbed as to admit of the genial influences of the sun and rain, those powerful agents of decomposition. It is of that peculiar structure which is so well adapted to the form which the under side of the furrow naturally assumes, in the process of being inverted, that after a few hours service, not an inch will be found which is not polished by the passing furrow.

The *centre draft* principle, seems almost universally misapprehended by most farmers and plow makers, although it has been the characteristic feature of Messrs. Prouty & Mears' plows for many years. Most persons suppose that this appellation refers to the draft-rod, which dispenses with the application of the power at the extremity of the beam; but this is not so. Its takes its name from the approximation of the beam to the central section of the implement, most other plows having the beam placed directly over the perpendicular land-side. The land-side makes an acute angle with a perpendicular, from the sole of the plow, and hence the furrow-slice, instead of being rectangular, is rhomboidal. The combined action of the coulter and plow, loosens the earth composing the acute angle, so that when the furrow-slice laps on the preceding one, the loose earth falls into the channel made by the lapping of the furrows and completely buries the protruding vegetation. This feature of the plow is looked upon by your committee with great favor, as it is almost impossible for a rectangular furrow-slice to be so laid as to shut in the grass so as to insure its decomposition, and to repress its growth.

The inclination of the land-side also brings the *standard* on which the beam is placed within the body of the plow, the front edge of which is thrown forwards in a curve under the beam, so as to prevent the vegetable matters on the surface from lodging on, and choking the plow. The after part of the head of the standard, is extended in such manner as to secure the beam and land-side more perfectly, and being within the body of the plow it admits of the position of the beam being in a line parallel with the land-side, and also causes the line of draft of the latter, and the line of motion of the plow to be parallel one to the other.

As the draft rod and other apparatus of adjustment attached to this plow, are in some respects peculiar, we subjoin Messrs. Prouty and Mears, description thereof.

"The draft rod.—The under side of the fore end of the beam of common length, is elevated from two to five inches above the level of the standard at its junction with the beam. At the fore end of the beam is secured a metallic graduating arc, having a slot of about six inches lateral extent, and through which is passed, vertically, an eye-bolt of about ten inches in length—about eight inches forming a male screw, the female consisting of a nut on the under, and a powerful thumb nut, or knob nut, on the upper side of the graduating arc. By means of this arc, nuts and screw, the eye of the bolt may be elevated or depressed, and also passed to the right or left of the centre, and thus secured in its position—thus adjusting the line of draft with great accuracy. In front of the standard, under the beam, embracing its sides and extending up back of the standard-bolt, is a clevis, having its ends secured by a strong bolt through the beam. This clevis has three notches to admit the hook on the end of the draft rod. One central, and one extending out on either side of the beam. The draft rod is a bar of round iron—having at one end an eye to draw by, and at the other is formed a suitable hook or eye by which it is attached to the clevis after having been passed through the eye of the adjusting screw bolt.

"This apparatus, when applied to the Prouty & Mears plow, (the land-side and standard of which are inclined, and the beam on a line parallel with the land-side,) admits of the plow carrying its proper width of furrow when drawn by two or more horses walking in the furrow, when the draft rod is hitched into the right hand notch of the clevis and full to the right in the graduating arc. Hitch central in the clevis, and set central in the arc and it follows equally well, a yoke of oxen or a pair of horses. Let the rod be hooked into the notch on the left of the beam, and moved to the left of the arc, and it follows the team of three horses abreast as perfectly as before, in each instance holding its width and depth of furrow, turning over and completely covering the sod and all vegetable matter.

To sum up the merits of this plow, it appears to us that it combines in a very remarkable degree the somewhat opposite qualities of ease of draft with pulverizing power; it buries the vegetable matter very thoroughly; it is made of very excellent materials; it is not expensive; the workmanship is of the best quality; it can be easily repaired, and facility in its use is easily acquired by the plowman. It is steady and equable in its motion, requiring little labor on the part of the plowman, and is susceptible of most accurate adjustment. The commendation which we have bestowed on the durability of the materials, strength of construction, neatness of finish, and general excellence of workmanship exhibited in this plow, applies with equal force to all the plows exhibited by the same proprietors.

Bosworth, Rich & Co.'s *Iron beam D.*—This plow has the merit of being the cheapest of any exhibited. Its construction gives it some advantages in plowing in stumpy land, and from its facility in turning, it is convenient where the furrows are very short. But your committee are constrained to say that the work performed by this plow, does not meet their approbation, as it requires too much aid from the foot of the plowman to place the furrow-slice in a proper position. It packs and solidifies the furrow-slice in consequence of the pressure of the hinder part of the mould board; the draft is heavy, and its action is vibratory and unsteady.

Finch's *Empire A* 3.—The same objections apply to this plow as to Randerson's, but it presses the furrow harder and requires more power.

H. L. Emery's *Albany Plow*, does good work, except that it fails to bury the stubble well.

W. U. Chase's *Amsterdam Plow No.* 6.—This implement was not properly adjusted for showing its peculiar properties, and therefore your committee hazard no remarks on its action.

E. J. Burrall's *Shell-wheel Plow.*—Much ingenuity is displayed in the construction of this plow, and from inspection, and from theoretical considerations, we should have been inclined to attribute to it valuable qualities; but it failed to effect a thorough pulverization of the soil, and to cover under the vegetable matter, without assistance from the foot of the plowman.

Prouty & Mears' *Connecticut Valley Plow.*—We cannot entertain a doubt of the excellence of the execution of this implement in soils adapted to its use; but it was not adapted to the soil where it was tried in our presence.

Your committee have thus passed in review all the plows offered for competition in this particular kind of land, and have given their opinions so far as they know their own hearts, with entire impartiality. They would have praised with far greater pleasure than they have blamed; but their duty to the society, and to the farmers of the State, seemed imperiously to require that they should honestly state the facts as they presented themselves to their view, with their conclusions, without fear, favor or affection.

Stiff Soil Trials.—Having thus finished the trial of plows on "Old Ground," they proceeded to test those entered for plowing stiff sod.

The field selected was of a stiff clay soil, with a smooth and almost level surface, generally free from stones, in a very wet condition from recent rains, and covered with a sod which had been unplowed for many years. The size of furrow-slice prescribed by the rules was 7 inches by 10 inches. The lands were 150 feet long by 23 feet wide. Twenty two plows were entered for competition, and the annexed table shows, 1st, the name of the competitor; 2d, the name of the plow; 3d, the draft; 4th, size of furrow; 5th, the price of the plow, and 6th, the weight of the plow.

Names of Competitors.	Name of Plow.	Dft.	Size of Furrow.	Price of Plow.	Wt. of Plow.
French & Smith,	Michigan sod and sub-soil,	500	8 by 10	$13.00	174
Miner & Horton,	No. 21,	425	7 by 10	7.50	107
French & Smith,	Michigan Joint plow,	510	7½ by 12	10.00	
Eddy & Co.,	Washington Co. D,	450	7 by 12	10.00	112½
Miner & Horton,	No. 22,	550	7 by 12		
Prouty & Co.,	Centre draft, No. 25,	490	7 by 11	11.50	108
H. L. Emery,	Albany,	580	7 by 11	10.50	133
Bosworth & Rich,	Right and Left,	550	7 by 10	7.00	122
Finch,	Empire A 3,	525	7 by 12	8.75	99½
Gilbert,	New Jersey,	500	7 by 12	6.00	93
Starbuck & Co.,	Trojan No. 5,	425	7 by 12	9.00	109
Scott,	Ohio,	650			
Prouty & Co.,	Centre draft, 5½	470	7½ by 11½	12 00	119
Prouty & Co.,	Centre draft, No. 30,	450	7 by 10½	10.50	93½
Bosworth, Rich & Co.,	Iron Beam, E D,	380	7 by 10	8.50	102½
W. U. Chase,	Amsterdam, No. 2,	500	7 by 11		114
Randerson,	Schodac,	390	6½ by 10½	8.00	109
Starbuck & Co.,	Iron Beam,	410	7 by 12	8.50	
A. Fleck,	Wilkie's Scotch swing,	475	7 by 10	28.00	175
Starbuck & Co.,	Trojan No. 3,	460	7½ by 12		
P. Auld,	Improved Scotch,	475	7 by 11	9.50	116½
E. J. Burrall,	Shell Wheel,	410	7 by 11	11.00	126

French & Smith's *Michigan Sod and Sub-soil.*—We reserve our remarks on this plow for another place.

Minor & Horton's *Peekskill Plow No.* 21.—This plow does excellent work, though intended for a wider furrow, and working disadvantageously in this. It yet made good work, pulverizing the soil in a satisfactory manner. This plow, as well as No. 22, hereinafter mentioned, was held by a person unaccustomed to the implement, and for that reason all the excellencies of the plows were not developed. It runs with great steadiness, and requires very little interference on the part of the holder.

French & Smith's *Michigan Joint Plow.*—This implement has merits, but is inferior to the "Sod and Subsoil Plow" of the same proprietors.

Eddy & Co.'s *Washington Co. D.*—This plow is not calculated for so deep a furrow as seven inches. When working at this depth, much power is expended upon the furrow slice which is hardened and polished by the pressure. It cleans out the bottom of the furrow well, and runs very steadily.

Miner & Horton's *Peekskill No.* 22.—This plow does not leave the land as light as No. 21, nor is it as well adapted for the work required by the rules.

Prouty & Mears' *Centre Draft No.* 25.—Leaves the furrow too flat and heavy for stiff soils, but buries the grass satisfactorily.

H. L. Emery's *Albany Plow.*—The furrows were smoothly cut, but the grass was not well covered, and the soil not sufficiently pulverized.

Bosworth, Rich & Co.'s *Right and Left Hand Plow.*—This plow performed its work admirably, with a single exception of the great power which was required to operate it. It pulverized the soil well, and buried the grass very thoroughly

Finch's *Empire A* 3.—This plow has but little pulverizing action, and leaves the furrow slice heavy; but runs squarely and steadily.

Gilbert's *New Jersey Plow.*—Was worked without a wheel, and was deficient in apparatus for accurate adjustment, and its furrows were cut unequally as to depth and width. It requires too much power, when running seven inches deep, to become a favorite with our farmers.

Starbuck & Co.'s *Trojan No.* 5.—This is a valuable plow, and will undoubtedly be a favorite with many farmers; it lays its furrows smoothly and evenly, but does not pulverize the soil or bury the grass as well as the standard of good plowing requires. This plow, like many others which were exhibited, took too wide a furrow in proportion to its depth. We deem the growing tendency amongst plow makers to adapt their implements to a wide furrow-slice, as an evil sign of the times, fraught with the worst results to the cause of agriculture. No fault is attributable to the makers for this; they only comply with the demands of their customers, but we think it high time that an earnest effort was made to disabuse the minds of *Farmers* of this error, as it is one which must necessarily diminish the returns of their labor. Like all the plows made by these gentlemen, it is of easy draft. Messrs. Starbuck's plows were all held by Mr. Smith, who exhibited admirable skill as a plowman, and brought out their good qualities in the amplest manner.

Scott's *Ohio Plow.*—The proprietor of this plow stated that it was not prepared for working, and requested no remarks in regard to it.

Prouty & Mears' *Centre Draft No.* 5½.—Made good work, but takes too wide a furrow to do the required work on this soil in the best manner.

Prouty & Mears' *Centre Draft No.* 30.—The general form of this plow is similar to that of the "5½," except that it is calculated to do deeper work in proportion to the width, which is a great advantage for stiff soils. Lightness and friability are the main objects to be attained on such soils. They should be plowed *fine* and well pulverized, not only for the purpose of making a suitable seed-bed, but in order that the action of the air may develope and render soluble the latent vegetable food which they contain. The operation of this plow was highly satisfactory in these respects. The furrow-slice was cut with great uniformity, (as per table,) and it was left beautifully open and light, while the grass was so completely covered as to prevent its growth. This was particularly observed by the judges, who visited the field five days after the work had been done, (during which interval there had been a fall of rain,) in order to compare the condition of the land plowed by the different implements. The lot plowed by this plow, lay considerably on what had formerly been the track of a road, which made that part of the soil, especially towards the bottom of the furrow, very hard, and increased the draft; yet the implement held its depth well throughout. The attachment of the draft-rod to that part of the beam nearest the centre of the plow's weight, is thought to have a favorable effect in keeping it to its depth and giving steadiness of motion.

Bosworth, Rich & Co.'s *Iron Beam E D.*—This plow required less power than any other on the ground, but it was deficient in pulverizing action, and covered the grass imperfectly; and the sod required the foot of the plowman to assist in its inversion.

W. U. Chase's *Amsterdam Plow, No.* 2.—A good, substantial, and cheap implement. Sufficient pains had not been taken in its adjustment before trial, and the plowman not being accustomed to its use, all its good qualities were not made apparent.

Randerson's *Schodac Plow.*—The remarks on this plow, under "old land" plowing, will apply in this connection. It is proper to state, also, that it did not, generally, work to the depth required. In this instance, twelve furrows were plowed before the dynamometer was put on, the average depth of which was not over six inches; and when the implement was put down to seven inches, for the purpose of testing the draft by the dynamometer, the furrows plowed showed very conspicuously above the rest of the land. The great difference in the power required to plow six inches, and that required for seven inches, will account, in a considerable degree, for the ease and expedition with which Mr. Randerson's horses moved.

Starbuck & Co.'s *Iron Beam.*—Similar to the "Trojan" No. 5, but does not work quite as evenly and smoothly as that.

A. Fleck's *Wilkie's Scotch Plow.*—This plow operated with great regularity, cutting its furrows seven inches by ten, with uniformity and precision, leaving the edges or corners high, and exposing to the air a large proportion of the slice. At the time of the examination of the field by the committee, the lot plowed with this plow was found to be in a much drier and lighter condition than most of the lots, and at a subsequent examination it was noticed that but little grass had grown between the furrows,—a result which was owing to the furrow-slice having been left in so friable a state that the ridges had crumbled down and closed the interstices. The bottom of the furrows, though cut more squarely here than on old land, (a different share having been used) was still liable to the same objection as mentioned in that case. The plowman, Mathew Hutchinson, is a very superior workman, possessing all the qualities which make the true plowman, and we should neglect a most pleasing duty, were we to fail in unanimously awarding him the praise which his work so richly merits.

Starbuck's *Trojan, No.* 3.—Makes good work, and buries the vegetable matter better than any other plow by these makers.

E. J. Burrall's *Shell Wheel Plow.*—Is substantially made, but is deficient in pulverization and in burying sod. The committee examined the various lands with great care on the completion of the trials. Five days afterwards they examined them again, and three weeks subsequently a part of the committee examined the work, and the opinions above given are the result of their combined inspections.

Sandy Sod Soils.—Our next trials were in a sandy sod soil, situated on the Island, north of the rail road depot. The soil was an alluvial sand, with a very tough sward, which had not been disturbed for twenty years, and which had been used for pasturage during that period. The lands were of the same length and breadth as those on the "stiff sod" trials. The following table indicates the draft of each plow:

Names of Competitors.	Name of Plow.	Draft.
Finch,	Small Empire,	490
Miner & Horton,	Peekskill, No. 21,	320
Miner & Horton,	Peekskill, No. 20,	370
W. U. Chase,	Amsterdam, No. 2,	350
French & Smith,	Michigan Joint,	440
French & Smith,	Michigan sod and sub-soil,	450
Starbuck & Co.,	Iron beam,	390
Wm. U. Chase,	Amsterdam, No. 6,	395
Bosworth, Rich & Co.,	D,	410
Starbuck & Co.,	Trojan, No. 5,	350
Finch,	Large Empire,	430
Randerson,	Schodac,	340
H. L. Emery,	Albany,	420

Names of Competitors.	Name of Plow.	Draft.
Bosworth & Rich,	Right and Left,	510
Bosworth & Rich,	E D,	400
P. Auld,	Improved Scotch,	410
Prouty & Mears,	Centre draft, No. 25,	400
Prouty & Mears,	Centre draft, No. 5½,	425
Wm. U. Chase,	Amsterdam, No. 7,	375
A. Fleck,	Wilkie's Scotch,	450
Gilbert,	New Jersey,	575

Our remarks on the special qualities of the several plows have been given with so much detail under the trials on "old land" and on "stiff sod," that we deem it unnecessary to say more in relation to them in the present connexion, except the general remark, that the greatest deficiency noticed in most of the plows which were submitted for this trial, was one which would have entitled them to commendation in stiff and tenacious soils, and that is, they lapped the furrows too much, which increased the friability of a soil already too loose. They were also deficient in burying the grass. In most of the lands it could be seen protruding through the interstices, and a shower having occurred soon after the trials were finished, it grew in a few days so as to cover the field with a very undesirable verdure. These defects, however, were admirably obviated by the plows to which the premiums are awarded. All the plows were gauged to work six inches by twelve.

Trial of Side-Hill Plows.—These plows were tried on a steep side hill in the same field where the trials on "old land" were made. There were three plows entered for the premium, viz:

Bosworth, Rich & Co.'s,	price $7.00,	wt. 123 lbs.
Prouty & Mears',........	9.00,	" 110 lbs.
Eddy & Co.'s,...........	9.00,	" 111 lbs.

They all performed well, and are well worthy of their makers' reputations, and of the confidence of the public; but all things considered they esteem the plow of Bosworth, Rich & Co. the best. It is truly an excellent implement, and they recommend it with great confidence to those requiring such an implement, as one which will give them entire satisfaction.

Trial of Sub-soil Plows.—Three plows were entered for this trial, viz:

Prouty & Mears' *B Sub-soil Plow.*—Price $10, weight 103 lbs., draft 750; in a very stiff hard-pan, filled with stones; sub-soil depth 11¼ inches. The draft of this plow in a similar soil, but much more free from stones, was 650 lbs.

Prouty & Mears' *C Sub-soil Plow*, price $8, weight 89½ lbs., draft 650 lbs.; in a sub-soil similar to that in which B was tried, less stony than the first trial, but much more so than the second one; depth 10½ inches.

Bosworth, Rich & Co.'s *Sub-soil Plow*, price $7, draft 650 lbs.; in a sub-soil similar in texture and stones to that in the second trial of Prouty & Mears' B plow, depth 10¾ inches, weight 88½ lbs. On a second trial, its draft was 700 lbs., with a depth of 10½ inches. The adjustment attached to Prouty & Mears' C plow, by which the amount of pulverization may be increased or diminished, according to circumstances, gives it a preference over others, and entitles it to a premium. It is proper, however, to add, that the plow exhibited by Bosworth, Rich & Co. was an excellent implement, and will, in most respects, give good satisfaction to purchasers.

Measurements of various Plows.—Notwithstanding the acknowledged importance of the plow as bearing on the quantity, quality and cheapness of vegetable, and, to a considerable extent, of animal food, little is yet known with respect to its theory. One obstacle to its investigation has hitherto been the want of reliable data. As one contribution to the removal of this obstacle, we subjoin the following measurements of various plows which have been exhibited at the trials:

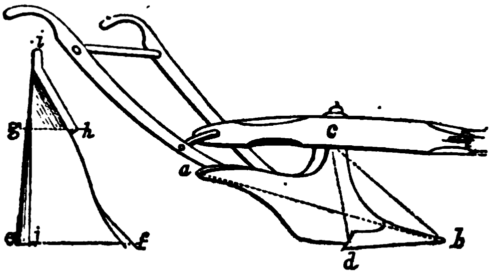


Fig. 2. Fig. 1.

	Fig. 1 a b	" c b	" c d	Fig. 2 e f	" g h	" i e	" e j	Ht Stan'rd
Fleck's Scotch Swing Plow.	3 ft 5 in	2 ft 1 in	1 ft 6¼ in	7½ in	5¼ in	2 ft 9¼ in	2¼ in	1 ft 5½ in
French & Smith's Sod and Sub-soil.	3 ft 3½ in	1 ft 9¼ in	1 ft 6¼ in	10½ in	10½ in	2 ft 2½ in	1 ft 1½ in	1 ft 4 in
Randerson's Schodac Plow.	3 ft 4 in	1 ft 4 in	1 ft 1 in	9 in	8½ in	2 ft 4½ in	2½ in	
Miner & Horton's Peekskill No. 1.	2 ft 11½ in	1 ft 9 in	1 ft	8¾ in	9¼ in	2 ft 3 in	1¾ in	
Starbuck & Co.'s Trojan No. 6.	2 ft 9½ in	1 ft 9¾ in	11 in	9 in	9¼ in	2 ft 3 in	1¼ in	
P. Auld's Improved Scotch.	3 ft 6½ in	1 ft 9½ in	1 ft 2½ in	11 in	6½ in	2 ft 4½ in	1½ in	1 ft ½ in
Prouty & Mears' Centre Draft No 5½	3 ft 1 in	1 ft 8 in	1 ft 4½ in	10¾ in	10 in	2 ft 3½ in	1½ in	1 ft 2½ in
Bosworth & Rich's Iron Beam D.	2 ft 10 in	1 ft 6½ in	1 ft ½ in	9½ in	8½ in	2 ft 3½ in	1 in	
R. R. Finch's Empire A 3.	2 ft 1¾ in	1 ft 8½ in	1 ft 5½ in	9½ in	10½ in	1 ft 4½ in	2 in	1 ft 2 in
H. L. Emery's Albany.	3 ft	2 ft 8 in	1 ft 4½ in	8½ in	9 in	2 ft 3½ in	1 in	1 ft 3 in
Wm. Chase's Amsterdam No. 2.	2 ft 11 in	1 ft 10½ in	1 ft 1½ in	7½ in	10 in	2 ft 3¾ in	1 in	1 ft 4½ in
Ransom's Plow which took the prem. at the trial at Southampton, Eng.	3 ft 7¾ in	1 ft 9½ in	1 ft 1 in	9½ in	7½ in	3 ft 2½ in	2½ in	1 ft 4½ in
Gilbert's New Jersey.	2 ft 7¾ in	1 ft 9 in	1 ft 6½ in	9½ in	10½ in	2 ft 1½ in	¾ in	2 ft
Starbuck & Co.'s Trojan No. 5.	3 ft ½ in	1 ft 6½ in	1 ft 1 in	9 in	9½ in	2 ft 2½ in	1½ in	1 ft 4½ in
Starbuck & Co.'s Iron Beam.	2 ft 10½ in	1 ft 5 in	1 ft 1¾ in	9½ in	10 in	2 ft 2½ in	1½ in	1 ft 1½ in

Fig. 1, the line a b is the distance from the extreme end of the point to the extreme end of the mould board.
" " c b is the distance from the point to the intersection of the standard and beam.
" " c d is the distance from the corner of the share to the intersection of the standard and beam.
Fig. 2, " e f is the distance across the sole from the land side to the heel of the mould board.
" " g h is the distance across the sole from the lower side of the corner of the share.
" " i e is the length of the sole measured on the land side.
" " e j is the breadth of the land side at the heel.

Michigan Sod and Sub-soil Plow.—We have refrained in the remarks hitherto offered from making any comments on the plow offered by Messrs. French & Smith, and called by them the Michigan

Sod and Sub-soil Plow, because in our opinion, it could not be brought into competition with other plows, without great injustice to the proprietors of the latter. In the first place, it is properly a *three-horse plow*, while all the others are two horse plows. Secondly, its *double* character distinguishes it from all others.

We regard this implement as a most useful present from the mechanic to the farmer, and in our opinion its introduction will effect a great improvement in the tillage of some kinds of soil. It pulverizes the soil in an excellent manner, which to be fully appreciated, must be seen; and it accomplishes this pulverization with an amount of power which, in reference to the work performed, is certainly not large. It buries the sod *completely* and covers it with a coating of loose earth which makes a seed bed almost as perfectly as a spade.

In other plows tried, there was *one* size of furrow-slice which the plow turned better than any other; if a broader or narrower furrow was taken, the plow would act less perfectly. This was not the case with the "sod and sub-soil" plow; it seemed to perform equally well whatever was the breadth of the furrow, and this quality we deem a great advantage. We do not wish, however, to be understood as recommending this, as a plow adapted to "all work." Where, from peculiar circumstances, it is not desirable to plow deeper than six inches, we cannot recommend this implement; its peculiar pulverizing powers are not fully developed with a furrow shallower than seven inches. Its properties may be given in substance as follows:—

1st. It is particularly useful where *trench* plowing is required; that is, where it is wished to bring the sub-soil or a portion of it to the surface. This is a useful operation where the sub-soil abounds with vegetable food in a greater proportion than the surface soil; as on alluvial and other very deep soils, where the upper stratum has been exhausted by cultivation. 2d. It is also exceedingly valuable for ordinary *stiff* adhesive soils, the greatest defect of which is their tendency to pack too closely. This defect is in a great degree obviated by the manner in which this plow performs its work. It cuts its furrow-slice in two parts, horizontally, by which operation it makes twice as much division of the soil as is effected by an ordinary plow when going at the same depth and width, and from the fact that each part is turned over by itself, it falls lightly, and remains in a pulverized state.

In consideration of all the circumstances we recommend that a premium equal to the first, in amount and in honor, be awarded to this plow for "old land" and "stiff sod" plowing. In view of the results of the trials instituted by us, and detailed above, we recommend the following

AWARD OF PREMIUMS.

To French & Smith, for their *Michigan Sod and Sub-soil Plow*, for plowing on "Old land" and "Stiff sod". . Diploma and	$15.00
OLD LAND.	
1st Premium to Prouty & Mears for their *Centre Draft No.* 5½, ... Diploma and	10.00
2d Premium to Miner & Horton, for their *Peekskill, No.* 21,	8.00
STIFF SOD SOIL.	
1st Premium to Prouty & Mears, for their *Centre Draft No.* 30, ... Diploma and	15.00
2d Premium, to Miner & Horton, for their *Peekskill, No.* 21,	10.00
LIGHT SOD SOIL.	
1st Premium, to Prouty & Mears, for their *Centre Draft No.* 25, ... Diploma and	15.00
2d Premium, Wm. U. Chase, for his *Amsterdam No.* 7, ...	10.00
SIDE HILL PLOW.	
To Bosworth, Rich & Co., for their *Side Hill Plow*, ... Diploma and	8.00
SUB-SOIL PLOW.	
To Prouty & Mears, for their *Sub-Soil Plow* C, Diploma and	$8 00

The committee, in making the above awards, would not be understood as claiming *entire perfection* for any of the implements; on the contrary they believe there is room for improvement in all; their decisions are intended to show, that, of the plows which came under their examination, those on which the premiums were bestowed, were the best for the purposes designated. We would earnestly invite the attention of manufacturers of plows to the necessity of adapting their implements to *special purposes*. It is a great mistake to suppose that the construction of a plow "of all work," as it is called, is possible. The different circumstances under which plows must be used, and the different objects to be attained, render a difference of construction absolutely necessary. For instance, clayey and tenacious soils ought to be thoroughly pulverized, and to effect this, they must be plowed with a deep and narrow furrow, and left as light as practicable. Sandy soils, on the other hand, should be merely turned over, to expose a fresh surface to the atmosphere, and to bury the surface vegetable matter, without pulverizing or making the soil more loose—its lightness being already too great to prevent the escape of the æriform and liquid matters which constitute the food of plants. It may be observed, too, that plows of somewhat different construction are required for rough and smooth land—a shorter inplement, especially, being required for the former situation, in order to adapt itself to the inequalities of the surface. It is obviously impossible that the same plow can fulfill such antagonistic conditions; and it therefore becomes necessary to ascertain what are the best plows—not for general purposes—but for the various special purposes to which they must be applied.

The committee would do injustice to their own feelings were they to fail to acknowledge their obligations to Ezra P. Prentice, Esq., the President of the Society, for his earnest efforts to promote the success of their experiments, by valuable advice and intelligent co-operation. They also desire to express their cordial acknowledgments to B. P. Johnson, Esq., the Secretary of the Society, for his assiduity in anticipating and providing for all their wants during the trials of the plows. Much of the success which has attended their labors, is due to his untiring watchfulness and intelligent zeal.

They also desire to express their thanks to all the competitors, without exception, for their kindness, and for the liberal confidence which they displayed towards the committee during the protracted trials of their implements. To H. L. Emery, of Albany, and Wm. U. Chase, of Amsterdam, their thanks are especially due for active and willing assistance rendered by them on the field.

Anthony Van Bergen,
John Stanton Gould,
Sanford Howard, } Committee.
B. B. Kirtland,
Peter Crispell, Jr.

Note.—Suggestions by the Committee in regard to points connected with the construction of plows, which require investigation, and also hints in regard to conducting trials of plows, will be attached to the report in a supplementary form, when it is published in the *Transactions*.—Eds.

Large Field of Wheat.—We learn that Mr. William Cook, of Lima, harvested this season 466 bushels of fine wheat from ten acres of land. The wheat was of the Soule's variety and was drilled in with one of Spencer & Co.'s drills.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Selecting Fruit for a continued Supply.

THERE are two reasons why home-raised fruit is better than that purchased in market. First, fully ripe fruit, plump with melting richness, may be taken fresh from the tree for immediate use, instead of being plucked while yet hard for two or three days of carriage and exposure in market. Secondly, where fruit is raised in one's own garden, the tenderest and most delicious may be selected; while that which is to be offered in market is usually of such sorts as have a showy exterior, or yield the largest crops. Every man, therefore, who possesses a rood of land, should endeavor, as far as possible, to furnish his own table. There can scarcely be conceived a better combination of the elements of comfort, independence and economy, than in a succession of the very best home grown fresh fruit for the use of a family for the twelve months of the year.

The time for autumn transplanting is now at hand. In selecting the varieties, there are several considerations to be borne in mind. 1. As a general rule, it is safest to adhere to those sorts which have proved best with the best cultivators in each particular region. New and unproved sorts, no matter how highly they may be recommended, should be introduced sparingly. 2. A supply may be relied on at all times and through all seasons with greater certainty, by a rather extensive than meagre list. Some fruits succeed best in one season, and others in other seasons. For example, in one year nearly all the early cherries rotted but the *Kentish*, which in other years was passed as second rate. We had the present summer three fine sorts of early peaches ripening at about the same period, namely, *Fay's Early Ann*, the *Tillotson* and *Serrate Early York*. The two latter bore but few specimens; the former by a profuse crop supplied the deficiency. One year may be noted for its abundant crop of strawberries, another for its bountiful supply of raspberries, a third for its grapes, and a fourth for its pears. Hence a wide selection, provided the very best are taken, will prove most satisfactory.

We have repeatedly given select lists of fruits in former numbers of the Cultivator. It may perhaps be interesting here to mention only a few of the best or most noted for particular purposes. The season of fruit begins in the northern States by the first of summer, with *cherries* and *strawberries*. The earliest stawberries, really worth raising, are *Large Early Scarlet*, *Burr's New Pine*, and *Boston Pine*; the later sorts are *Old Hudson*, *Hovey's Seedling*, and *Dundee*. The earliest cherries are *Early Purple Guigne* and the *Doctor*; the later are *Elton*, *Downton* and *Downer's late*. *Holland Bigarreau* and *Black Tartarian* are fine cherries, and also productive for market. *Belle Magnifique* and *Plumstone Morello* are excellent late cherries. These two sorts coming in this year, after the rotting season, were beautiful, sound and perfect. Apricots, ripening by midsummer, immediately follow cherries. Unless they are planted on a soil with a naturally dry or well drained sub-soil, they are liable to perish long before reaching old age. Low heads are thought best, but are not proof against this disaster. The hardiest apricot, not of the highest quality, but well worth raising, and as hardy as a sugar maple, is the *Black*. Of the others, the *Golden* or *Fishkill* and the *Breda* are the most reliable. The *Large Early* and the *Moorpark* are less certain and productive, although of fine quality and large size

The *Primordian* plum, a rather tender and slowly growing variety, but profusely productive, ripens with the earliest apricots, and is for this reason very valuable. *Early Royal* and *Imperial Ottoman* succeed the Primordian, the *Green Gage* and *Lawrence Favorite*; these are followed by *Washington* and *Jefferson*; *Purple Gage* is rather late, and the *Frost Gage* quite late, and a profuse bearing market variety. The *Lombard* or *Bleecker's Red*, and the *Imperial Gage* are well adapted to light soils. *Coe's Golden Drop* is a fine large late sort, not always ripening at the north.

The three best very early peaches we have already mentioned. They are followed successively by *Cole's Early Red*, *Coolidge's Favorite*, *Large Early York*, *George IV*, *Crawford's Early*, *Morris White*, *Nivette*, *Oldmixon Free* and *Crawford's Late*.

The best early pear is the *Madeleine*. Afterwards we have those delicious summer varieties, the *Rostiezer* and *Tyson*; then the *Barlett* and *Washington*, both free growers, and great and early bearers; these are succeeded by the *Seckel*, unequalled for high flavor, by *Louise Bonne of Jersey*, unsurpassed for productiveness, and by the *Flemish Beauty* for its free growth, large size and fine quality. The *White* and *Gray Doyenne*, on soils adapted to them, are scarcely equalled among late autumn pears. Among late autumn and early winter sorts, the *Aremberg*, *Winkfield* and *Winter Nelis* are regarded generally as the best. The *Easter Beurre* if fully ripened and well kept, is a very desirable late winter and spring pear. The new variety, the *Autumn Paradise*, is likely to prove a pear of great value for mid-autumn. *Onondaga* or *Swan's Orange* and *Beure Diel*, as well as Bartlett, Flemish Beauty and Winkfield, are desirable for market from their size and beauty, to which may be added the *Golden Bilboa*, although but little above medium in size.

It is scarcely necessary to point out those varieties of the apple which will give us fresh fruit through autumn and winter, and till the early summer fruits appear the succeeding year, the best sorts being so well known.

Materials for Potting Plants.

According to the Gardener's Chronicle, the best materials for the cultivation of plants in pots, are the following:—

Loam—the best is procured from very old pastures or commons—the surface to be pared off not more than two inches—to be laid in a heap to decompose for 8 or 10 months. A heavier and a lighter will be found of great convenience, for plants of different habits.

Peat—in choosing this, it should be procured from a dry rather than wet locality. If coarse from fern roots, it should decompose in a heap. Peat is of great value in keeping composts open, and assisting drainage. In this country, where it cannot always be easily had, leaf-mould, from the woods, is a good substitute.

Manure—stable dung, quite rotted, is perhaps as good as any thing. It should never undergo fermentation. For some kinds of plants, cow-dung three or four years old, will prove very useful.

Sand, of a pure white kind, is the most desirable—the nearer it approaches pounded silica, the better.

To attempt any thing beyond mediocrity, without being possessed of the above materials, will be found a waste of labor. These materials should be always kept within reach of the potting bench, in a condition fit for immediate use. It is this foresight that has rendered the course easy to many a successful aspirant, and the want of it the ruin of half the plants propagated. For plants will not generally thrive in any compost, however carefully attended to, unless some attention is paid to their natural wants and habits. Plants in pots are in an artificial position, and require a proportionate amount of care in cultivation.

The Curculio—the opinions of Doctors.

Where any evil is extensive, and its remedy difficult, we are always sure to have plenty of prescriptions. Nothing exemplifies this truth more strikingly than the efforts to get rid of the Curculio. We have at least a dozen remedies on record, nearly all of which have proved in a greater or less degree effectual, as for example jarring them down on sheets; paving beneath the trees; syringing the forming fruit with lime wash; pounding the earth beneath the trees and sweeping up the fallen fruit; confining pigs and geese; repelling by fermenting manure and other offensive odors; saturating the ground with salt; squirting over the trees tobacco-water or brine; decoying into wide mouthed vials; throwing them up to the frost, &c. Our object at present, is not to go into a discussion of the merits of the various modes, but to give the opinions of a few men of extensive experience, now that the season for these depredators has past, and before the commencement of another.

C. M. Hovey, of Boston, for 15 years past editor of the Magazine of Horticulture, says, "It cannot be denied, that thus far, of all the plans suggested for limiting their ravages, not one can claim so much merit as that of *shaking them from the trees daily*, during the whole period, when they make their attacks upon the fruit. All the barbarous plans for disfiguring a garden, by paving it with bricks or stone,—making it a pig pen or henery—saturating the soil with guano or salt and numberless other modes, too numerous to mention, suggested by those who are novices in horticulture, are of little or no value, compared with that of shaking the trees and catching the 'rascals.'"

F. R. Elliott, secretary of the Ohio fruit conventions, of the N. American Pomological conventions, &c. says, "Of the many receipts that have been chronicled as certain cures, none with us other than the mesmeric manipulation of that veteran Pomologist, David Thomas, '*stays put*,' that is catching them on a spread sheet. Paving, salt, sulphur, &c. are of no avail. Last season I paid a penny for every specimen;* this year I can well pay in plums."

A. J. Downing, in his Horticulturist, known as the best magazine on gardening in America, says, "We still think that pigs and poultry are the cheapest and most serviceable preventives to the Curculio, when the trees can be planted in yards which are thoroughly *investigated* by them. There are doubtless cases where, from incomplete arrangements, this mode may have failed; but in all instances, where thoroughly carried out and preserved in, it will be found an efficient and cheap mode. Meanwhile, paving is nicely adapted to the amateur's garden."

There can scarcely be a question that a combination of the preceding remedies, thoroughly applied, would be effectual in all cases.

The Transactions of the Essex Agricultural Society, Mass., furnish the following from a contributor,* which we have found the best mode of preserving from the curculio new or rare varieties, in small quantities for testing:—

"Last year I made two bags of old thin muslin, and drew them over two limbs about the time the fruit set. Within each of these bags I saved a few beautiful plums, and not a plum did I save on any other part of the tree. Last spring I bought a few yards of bonnet lining, and covered the limbs of several trees, some when the plums had set and others when they were in blossom; for I found the enemy had made their appearance while the trees were in bloom. Under each of these, I saved plums, apricots and nectarines, upon limbs of twelve different trees; and these were the only ones I saved. * * One small branch, covered by a bag, measuring six and a half by nine inches, contained twenty-one beautiful plums, hanging in one solid cluster. Upon another tree, I saved eight Moorpark apricots. I am training apricot trees in the form of a fan, to make them more convenient to be covered with muslin."

Market Gardens and Rail Roads.

Rail roads have had a wonderful influence on the production and sale of such articles as are quickly perishable. And on nothing has the influence been greater, perhaps, than on the market gardens about London. Covent Garden market has been famed for its remunerative prices of fine things. According to the Gardener's Chronicle, $300 have been obtained from an acre of cabbages, $500 for an acre of rhubarb, $700 for an acre of asparagus, and of strawberries. Single forced cucumbers have sold for $2, melons for $5, forced strawberries at half a dollar an ounce, and grapes $6 per pound. These prices are high, but the expenses are enormous. Fitch, of Fulham, (who has sold nine cart loads of vegetables in one day by nine o'clock in the morning) has paid out for the use of 100 acres of land, manure and all expenses, *nearly twenty thousand dollars a year*.

But fresh market gardens have sprung up all along the lines of railways, and made a fearful change upon the old gardeners. Land in the country is not a sixth part of the price it is near the city, and railway conveyance is cheap. Many families in London now receive the produce of their own country gardens. Railroads and steamboats have effected still another change. French vegetables and fruits are brought into London before the usual time for the English markets, having an earlier climate in their favor. The London gardeners possess a decided advantage in climate over the northern counties, and large quantities are consequently sent north. In short, the old and limited bounds of trade are broken up, and a general distribution both of profits and consumption made throughout the kingdom.

A similar result is taking place in this country. If our territory is wider, the greater difference in latitude will give the north the benefit of southern productions all the earlier. The Early Tillotson peach ripens in southern Virginia more than a month sooner than in New-York. A more general cultivation of this variety there would supply New-York city with an abundance of excellent peaches before mid-summer. This peach ripens at Vicksburg and Natchez within a fortnight of the first day of summer, and the more central portions of the Union might be supplied much earlier than from their own raising. Increased facilities for transportation, the growth of cities, and a greatly extended culture of early varieties of fruits and vegetables of different kinds, must ultimately render the domestic trade in these aticles of the greatest importance to producer and consumer, and tend to equalize the price of land by giving the gardeners and fruit raisers living 25 or 50 miles from large cities nearly the same advantages as those formerly within close proximity.

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* The actual cost is not a fifth of this.

*As copied by Hovey's Mag.

Lime for the Curculio.

Much attention has been excited the present year by a new remedy for the curculio. It was first tried by Lawrence Young, of Louisville, Ky., and has been repeated by others. It consists simply in covering the young fruit, as early as danger is apprehended, with a coating of thin lime wash, considerably more diluted than the mixture usually employed in whitewashing. It proves quite effectual; but it must be repeated after ever shower, and even after heavy dews, which wash off the lime. For this reason, it has proved, in the past wet season, more laborious than catching the insects on sheets. A dry season would be more favorable for the remedy with lime. It is applied by means of a large syringe.

The Stanwick Nectarine.

No new fruit has excited so much attention in England of late years, as this new variety of the nectarine. It was introduced from Syria, and although it has born fruit on the grounds of a single individual, the Duke of Northumberland, the specimens disseminated among judges have received the highest praise for excellence and delicious flavor. It is about the size of the Elruge, but much paler in color. According to Lindley, it is "exceedingly tender, juicy, rich, and sugary, without the slightest trace of the flavor of Prussic acid."

A great sale of 24 small trees of this variety took place at London, near the close of last spring, the only trees then in market. They were purchased chiefly by some twenty individuals, mostly nurserymen, for an aggregate sum of over $800, averaging more than $30 a tree, and some sold for more than $50. Time will determine whether, after a wider and longer cultivation, its high character will be sustained, and whether it will prove of much value in this country. Fine nectarines, it will be remembered, are quite an uncertain result among us, unless they have received extraordinary attention. Doubtless they who pay a high price for this will endeavor to persuade themselves that it is quite as fine as its merits will warrant. At the same time that enterprise is to be commended, we must not forget that nineteen-twentieths of all newly introduced wonders among fruits, have ultimately sunk greatly in public estimation after rigid trial, or been wholly forgotten. This should render us cautious, but not cause us blindly to reject every thing without a fair trial.

Horticultural Miscellanies.

Black Knot on the Plum.—Benjamin Hodge, of Buffalo, N. Y., who has raised and sold trees for the past thirty years, says he has never had this malady among his plum trees till the present season, and that in the instances cited, it was introduced from the East. One case was with two trees which came from Boston; in another instance, twenty trees out of some hundreds received from the eastern part of the State were affected; and a few trees grown from scions received from Massachusetts were attacked in the same way.

The Victoria Regia.—According to Spruce's Voyage up the Amazon, this remarkable plant, growing in water, has leaves four feet in diameter, which increase to eight feet during the rainy season. It is even asserted that some have attained twelve feet in diameter. So great is their size and so perfect their symmetry, that when turned up they suggest some strange fabric of cast iron just taken from the furnace; its color and the enormous ribs with which it is strengthened, increasing the similarity. At the exhibition of the London Horticultural Society last summer, a flower with two leaves of this plant were exhibited, the latter measuring each *five feet ten inches in diameter.*

Early Second Crop of Grapes.—The Gardener's Chronicle states that at last summer's exhibition of the London Horticultural Society, which closed the 13th of 7 mo. (July,) "there was a bunch of black Hamburg grapes, *perfectly colored,* from Mr. Wilmot, of Isleworth, which formed part of a crop ripe upon *vines that were loaded with ripe fruit last February!*"

Old Forest Trees.—We once counted the rings of a large tulip tree at the newly cut stump, in Western New-York, which we made out ninety years old at the discovery of America by Columbus. This tree was 124 feet high. The pines at the west on the Pacific coast, which attain such enormous dimensions, have in some instances numbered nine hundred rings. Such a tree, consequently, would have served as a bean-pole in the time of Gengis Khan, and was a tall towering forest tree of two hundred years during the conquest of Tamerlane.

Large Orchards.—Dr. Kennicott states in the Horticulturist, that eighteen miles above Peoria, Ill., Isaac Underhill has five hundred acres in orchard. He has in the last two years planted out 12,000 grafted apple trees, and 7,000 peach trees.

Pruning.—It is said that the donkey first taught the art of pruning the vine; man being merely an imitator, on seeing the effect of cropping the points of the young shoots. It is not always the greatest wisdom to originate, but to turn to good account whatever by thoughtful observation comes within our reach.

Luck with Trees.—We have noticed that certain men always have much finer peaches, and pears, and plums, than most of their neighbors, and are called *lucky.* Their luck consisted, in the first place, in doing everything well—taking what their neighbors called foolish pains—leaving nothing unfinished; and in the second place, in taking good care of what they had; that is, giving their trees wide, deep and mellow cultivation, applying manure where necessary, and especially the liquid manure from the chamber and wash tub. Great pains taken, whether with fruit trees or with children, scarcely ever fail to produce good results.

Stir the Soil.—The greatest horticulturist, almost, of the present day, says, "If I had '*a call*' to preach a sermon on gardening, I should take this for my text: STIR THE SOIL."

Hard to suit all.—At the American Congress of Fruit Growers, in 1848, a fruit committee of nine persons prepared a select list of fruits worthy of general cultivation. Although many hundred sorts of the pear have borne fruit in this country, all perhaps pronounced "*excellent*" by the nurserymen who sold them, yet there were only *two* that the fruit committee could *unanimously* agree upon to recommend, namely, the SECKEL and BARTLETT.

Deep Soil and Deep Roots.—A. J. Downing says, "I have seen the roots of strawberries extend *five feet* down into a rich deep soil; and those plants bore a crop of fruit five times, and twice as handsome and good, as the common product of the soil only one foot deep."

List of Premiums

Awarded at the State Fair at Albany.

CATTLE—Short Horns.

Bulls—*Over three years old*—1 and 2. No award—3. J. D Thorpe, Albany, $5.——*Two years old*—1. Sherwood & Stevens, Auburn, $20—2. S. P. Chapman, Clockville, $10—3. Geo. Vail, Troy, $5.——*Yearlings.*—1 and 3. No award—2. Lorillard Spencer, Westchester county, $10.——*Calves*—1. J. M. Sherwood, $10—2. F. M. Rotch, Butternuts, Trans. and $3.——*Extra Stock*—Certificate to Sherwood & Stevens, for "3d Duke of Cambridge," which received first premium in 1849.

Cows—*Over three years old*—1. Geo. Vail, $25—2. D. D. Campbell, Schenectady, $15—3. Thomas Hillhouse, Watervliet, $5.——Heifers—*Two years old*—1. Ambrose Stevens, New York, $20—2 and 3. Geo. Vail, $10 and $5.——*Yearlings*—1. Geo. Vail, $15—2. S. P. Chapman, $10—3. F. M. Rotch, $5.——*Calves*—1. Geo. Vail, $10—2. J. M. Sherwood, $3 and Trans.——*Extra Stock*—Certificate to S. P. Chapman, for "Charlotte," which received the first premium in 1849.

DEVONS.

Bulls—*Over three years old*—1. R. H. Van Rensselaer, Butternuts, $25—2. John Muir, sen., Hamilton, $15—3. Arden Woodruff, Wyoming, $5.——*Two years old*—1. John Freemyre, Schoharie co., $20—2. No award—3. H. N. Washbon, Butternuts, $5.——*Yearlings*—1. H. N. Washbon, $15—2. Leroy Mowry, Washington co., $10—3. Lewis G. Collins, Dutchess county, $5.——*Calves*—1. Lewis G. Collins, $10—2. H. N. Washbon, $3 and Trans.

Cows—*Over three years old*—1. H. N. Washbon, $25—2. L. G. Collins, $15—3. E. P. Beck, Sheldon, $5.——Heifers—*Two years old*—1. E. P. Beck, $20—2. H. N. Washbon, $10—3. M. C. Remington, Cayuga county, $5.——*Yearlings*—1. Leroy Mowry, $15—2. L. G. Collins, $10—3. H. N. Washbon, $5.——*Calves*—1 and 2. E. P. Beck, $10 and $3 and Trans.

HEREFORDS.

Bulls—*Over three years old*—1. Wm. A. Keese, Peru, $25—2. E. Corning, jr., Albany, $15.——*Two years old*—None exhibited.——*Yearlings*—1. No award—2. Wm. A. Keese, $10.——*Calves*—1. E. Corning. jr., $10.

Cows—*Over three years old*—1 and 2. E. Corning, jr., $25 and $15—3. W. A. Keese, $5.——Heifers—*Two years old*—1. No award—2. W. A. Keese, $10.——*Calves*—1. No award—2. W. A. Keese, $3 and Trans.

AYRSHIRES.

Bulls—*Over three years old*—1. E. P. Prentice, Albany, $25—2 and 3. No award.——*Two years old, and yearlings*—None exhibited.——*Calves*—1. E. P. Prentice, $10.

Cows—*Over three years old*—1 and 2. E. P. Prentice, $25 and $15.——Heifers—*Two years old*—1. J. McD. McIntyre, Albany, $20—2. E. P. Prentice, $10——*Calves*—1 and 2. E. P. Prentice, $10 and $3 and Trans.

NATIVE AND CROSS-BREEDS.

Cows—*Over three years old*—1. D. H. Albertson, Lima, $20—2. Thomas Bell, Morrissania, $12—3. Isaac Sheldon, Sennett, $4.——Heifers—*Two years old*—1. Thos. Bell, $15—2. Isaac Sheldon, $10—3. Joseph Haswell, $3.——*Yearlings*—1. F. B. Leonard, Rensselaer county, $10—2. Joseph Haswell, $8—3. Thos. Bell, $3.——*Calves*—1. John Lossing, Albany, $3—2. Milton Knickerbacker, Schodac, Trans.——*Commended*—Three heifers three years old, and one two years old, offered by John Townsend, Albany, one three years old by Thos. Bell, one by Joseph Haswell, and one two years old by John M. Mott, Lansingburgh.

WORKING OXEN.

Oxen—*Over four years old*—Best team from any town, W. Streever, Kinderhook, $25—best single yoke, Jas. S. Wadsworth, Geneseo, $20—2. Elon Sheldon, Sennett, $15—3. John P. Beekman, Kinderhook, $5.——*Special awards for single yokes*—R. Mesick, Kinderhook, $5—J. B. H. Church, Vernon, $5—Arden Woodruff, $5—J. H. Sherrill, New Hartford, $5—John Brydon, Westmoreland, $5—H. B. Bartlett, Paris, $5—Jos. Haswell, $5.

Steers—*Three years old*—*Single yoke*—1. John Muir, sen., $10—2. B. H. Streeter, Clyde, $8—3. Jas. S. Wadsworth, $3 and Trans.—Special premium to Elon Sheldon, $5.

Steers—*Two years old*—1. S. A Gilbert, Hamilton, $10—2. B. Benedict, Geneseo, $8—3. Jas. H. Sherrill, $3 and Trans.

To boys under sixteen, for training steers—1. John N. Benedict, Alexander, silver medal—2. Henry Comstock, Clinton, $3 and Trans.——*Special awards*—To S. A. Gilbert, for training steers, $2—Jas. S. Wadsworth, for a pair of steers, (unbroken) $5.

Steers—*One year old*—*Single yoke*—1. J. H. Sherrill, $8—2. S. A. Gilbert, $5—3. Jas. D. Van Vechten, Schodac, $3 and Trans.——*Special awards*—Lewis E. Smith, Half-Moon, vol. Trans.

To boys under sixteen. for training steers—1. S. A. Gilbert—2. J. H. Sherrill, $3 and Trans.

MILCH COWS.

S. P. Chapman, $20.

FAT CATTLE—Stall Fed.

Oxen—*Best pair over four years old*—1. Edward Munson, Sennett, (weight 5,267 lbs.,) $25—2. A. Ross, Preston, (weight 4,112½ lbs.,) $15—3. John H. Boyd, (weight 4,017½ lbs.,) $10.

Single Ox—*Over four years old*—1 and 2. Jas. S. Wadsworth, (weights 2,247, and 2,197½ lbs.,) $15 and $10.——*Commended*—A. Osborn, Watervliet.

Cows—*Over four years old*—1. J. M. Sherwood, (weight 1,765 lbs.,) $15—2. Aaron Taylor, Alden, (weight 1,855 lbs.,) $10.

Fat Steers—1. Elon Sheldon, $10—2. Milton Knickerbacker, $6.

FAT CATTLE—Grass Fed.

Oxen—*Over four years old*—1. Elon Sheldon, $20—2. J. H. Sherrill, $12—3. Hiram Sheldon, Sennett, $8.

Fat Steers—1. Jas. S. Wadsworth, $12.

Cows—*Over four years old*—1. Luke Putnam, Warsaw, $10—2. Geo. Vail, $6—3. G. Lee, Cambridge, $4.

Heifers—*Three years old*—1. Joseph Haswell, $8—2. Elon Sheldon, $3.

FAT SHEEP.

Long-wooled—*Over two years old*—1. No award—2. Richard Gypson, Oneida county, $3.——Middle Wooled—*Over two years old*—1. J. M. Sherwood, $5—2. Z. B. Wakeman, Herkimer, $3—3. J. McD. McIntyre, Morrell's "Shepherd."——*Special awards*—For middle-wooled lambs, Richard Gypson, Trans.—for fat sheep, E. R. Dix, Vernon, Trans.

FOREIGN STOCK.

Short-Horns—Bulls—1. George Miller, Markham, C. W., $25 and Dip.—Paoli Lathrop, South Hadley, Mass., $15.——*Calves*—Geo. Miller, Dip.

Cows—1. No award—2. Geo. Miller, Canada West, $15.

Devons—Bulls—1. Lemuel Hurlbut, Winchester, Ct., $25 and Dip.—2. W. R. Sanford, Orwell, Vt., $15—3. Wm. L. Cowles, Farmington, Ct., $5.——*Yearlings*—Wm. L. Cowles, $15.——*Calves*—Wm. R. Sandford, $10.

Cows—1. Wm. L. Cowles, $25 and Dip.—2. Lemuel Hurlbut, $15—3. Wm. L. Cowles, $5.——*Yearling Heifers*—1. Wm. L. Cowles, $15.——*Calves*—1. L. Hurlbut, $10—2. Wm. L. Cowles, Trans.

Ayrshires—Bulls—1. R. L. Colt, Patterson, N. J., $25 and Dip.—2. No award—3. E. W. Woodford, Avon, Ct., $5 and Trans.

Cows—1. R. L. Colt, $25 and Dip.——*Heifers*—R. L. Colt, Dip.

Alderneys—Bulls—1. R. L. Colt, $25 and Dip.

Cows—1. R. L. Colt, $25 and Dip.

Hungarian Cattle—Bull and Heifer—R. L. Colt, Dip.

Short-Horn and Devon Bull—Jonathan Baldwin, Berkshire, Vt., Dip.

Working Oxen—Wm. L. Cowles, $20—Lemuel Hurlbut, $15.

HORSES.

All work—Stallions—*Over four years old*—1. I. T. Grant, Schaghticoke, $20—2. John L. Bennett, Montgomery county, $12—3. C. Canfield, Poughkeepsie, $8—4. Foster Breed, Crown Point, Youatt—Wm. Streever, whose horse has heretofore received a premium, Dip.

Mares—1. E. Corning, jr., $20—2. G. Van Olinda, Watervliet, $12—3. P. F. Mesick, Columbia county, $8.

Draught Horses—Stallions—1. Joel Young, New Scotland, $20—2. W. A. Keese, $12——Mares—Wm. Bullock, Bethlehem, $20.

Thorough-bred Horses—Stallions—1. Mortimer De Mott, New York, $20—2. O. K. Lapham, Keeseville, $12——*Commended*—Horse "Consternation," owned by J. B. Burnet, Syracuse, which received the first premium in 1849, recommended a special premium, and horse "Lance," owned by W. W. Huff, Buffalo, which received the first premium in 1849, recommended a Diploma.

HORSES—Three Years Old.

Stallions—1. Philip Hornbeck, Rochester, Ulster county, $15—2. A. H. Jaquith, Fonda, $10—3. Harvey Kimberly, Columbia county, Youatt—4 William Hunter, Watervliet, Trans.

Mares—1. J. D. Kingsland, Clinton county, $15—2. Peleg Cross, jr, Columbia county, $10—3. John M. Taylor, Otsego county, Youatt—4. John McCormick, Bethlehem, Trans.

Two Year Olds—Stallions—Garret Van Olinda, Watervliet, $10—2. John Muir, sen., Hamilton, Youatt—3. Isaac Brink, Greenbush, Trans.

Mares—1. I. T. Grant, $10—2. S. A. Gilbert, Youatt—3. Daniel J. Day, Granville, Trans.

Yearling Colts—1. Wm. Streever, Kinderhook, $5—2. Isaac Hoag, Easton, Youatt—3 Abraham Oliver, New Scotland, Trans.

MATCHED HORSES—For Carriages.

1. J. B Plumb, Albany, $15 and Dip.—2. W. C. Durant, Albany, $10—3. T. S. Faxton, Utica, $8—4. John B. Borst, Mont'y co., $5.

MATCHED HORSES—For Draught.

1. John Butterfield, Utica, $10—2. Jagger, Treadwell & Perry, Albany, $8—3. —— Truax, Albany, $5—Silver medal recommended to Reynolds & Wort, New York, for a pair of mules.

SINGLE HORSES—Geldings.

1. Lewis E. Smith, Mechanicsville, $10 and Dip.—2. Theodore S. Faxton, $8—3. Nathan Morgan, Victor, $6—4. Silas W. Tobey, Hudson, $4.

FOREIGN HORSES.

Stallions—*Thorough-bred*—Thos. Leach, Canada West, $20 and Dip.——*All work*—1. Wm. Walker, Hartland, Vt., $20 and Dip.—2. Amos Bigelow, Bridport, $10.——*Draught*—1. Elisha Norton, Chelsea, Vt., $20 and Dip.—2. David Laurent, Canada, $10.

Mares—Wm. L. Cowles, Farmington, Ct., $20 and Dip.

Matched Horses—Andrew Holmes, Addison, Vt., $10—2. B. B. Foss, Chelsea, Vt., $10—*Certificate* to L. D. Harlow, Hartland, Vt., whose horse "Grey Hawk" received the first premium in this class in 1849.

SHEEP.

Long Wooled—Rams—*Over two years old*—1. Winant Younghans, Sandlake, $10—2. John A. Rathbun, Otsego co., $8—3. John C. Collins, $5.——*Under two years old*—1. B. J Hays, Montgomery county, $10—2. Richard Gypson, Oneida co., $8—3. B. J. Hays, $5.

Ewes—*Over two years old*—1. John A. Rathbun, $10—2. Winant Younghans, $8—Wm. Rathbun, $5.——*Under two years old*—1. John A Rathbun, $10—2. J. C. Rathbun, $8—3. E. Scace, Watervliet, $5.

Lambs—*Rams*—Winant Younghans, $8—2. Wm. Rathbun, $3 and Morrell's "Shepherd."——*Ewes*—1. Winant Younghans, $8—2. John A. Rathbun, $3 and Morrell's "Sheperd.

Middle Wooled—Rams—*Over two years old*—1. J. M. Sherwood, $10—2 and 3. ($13) equally divided between F. M. Rotch and J. McD. McIntyre.——*Under two years old*—1. Z. B. Wakeman, Herkimer, $10.

Ewes—*Over two years old*—1. J. M. Sherwood, $10—2. F. M.

Rotch, $8—3. Z. B. Wakeman, $5.——*Under two years old*—1. Z. B. Wakeman, $10—2. J. McD. McIntyre, $8.

Lambs—*Rams*—1. Z. B Wakeman, $8—2. J. McD. McIntyre, $3 and M.'s Shepherd.——*Ewes*—1. Z. B. Wakeman, $8—2. J. McD. McIntyre, $3 and M.'s "Shepherd."

Merinoes—Rams—*Over two years old*—1. N. M. Dart, Harpersfield, $10—2. Orrin Lathrop, Darien, $8—3. Joseph Haswell, $5.——*Under two years old*—1. L. H. Yates, Darien, $10—2. L. G. Collins, $8—3. J. M. Sherwood, $5.

Ewes—*Over two years old*—1. R. E. Keese, Ausable, $10—2. L. H. Yates, $8—3. F. M. Rotch, $5.——*Under two years old*—1. L. G. Collins, $10—2. R. E. Keese, $8—3. N. M. Dart, $5.

Lambs—*Rams*—1. L. G. Collins, $8—2. R. E. Keese, $3 and M.'s "Shepherd."——*Ewes*—R. E. Keese, $8—2. L. G. Collins, $3 and M.'s "Shepherd."

Saxons—Rams—*Over two years old*—1. S. H. Church, Vernon, $10—2. Ransom & Baker, Hoosick, $8—3. Joseph Haswell, $5.——*Under two years old*—1. S. H. Church, $10—2. Ransom & Baker, $5.

Ewes—*Over two years old*—1. S. H. Church, $10—2. Joseph Haswell, $8.——*Under two years old*—1. S. H. Church, $10—2. Ransom & Baker, $8—3. Frederick Phelps, Schodac, $5.

Lambs—*Rams*—1. Ramsom & Baker, $8—2. Joseph Haswell, $3 and M.'s "Shepherd."——*Ewes*—1. Jos. Haswell, $8—2. Ransom & Baker, $3 and M.'s "Shepherd."

Sample of Wool—*Ten fleces*—John P. Beekman, Kinderhook, Silver medal.

Shepherd's Dog—1. J. Campbell, Middlebury, Vt., $5—2. Robt. Middemist, West-Meredith, Morrell's "Shepherd."

Native and Grades—Rams—*Over two years old*—1. No award—2. D. S. Curtis, Canaan, $8.——*Under two years old*—1. D. S. Curtis, $10—2. R. C. Derrick, $8.

Ewes—*Over two years old*—1. D. S. Curtis, $10—2. E. R. Dix, Vernon, $8——*Under two years old*—1. No award—2. D. S. Curtis, $3 and M.'s "Shepherd."

Lambs—*Rams*—1. No award—2. D. S. Curtis, $3 and M.'s "Shepherd."——*Ewes*—1. Richard Gypson, $8—2. D. S. Curtiis, $3 and M.'s "Shepherd."

FOREIGN SHEEP.

Long Wooled—*Rams*—1. Wm. Miller, Markham, C. W., $10.——*Ewes*—Wm. Miller, $10.

Middle Wooled—*Rams*—Wm. Miller, $10.——*Ewes*—Wm. Miller, $10.——*Lambs*—Wm. Miller, $5.

Merinos—*Rams*—John Campbell, $10.——*Ewes*—Jesse Hinds, Brandon, Vt., $10.——*Ram Lambs*—Geo. Campbell, Westminster, Vt., $5 ——*Ewe Lambs*—Geo. Campbell, $5.

Saxons—*Rams*—C. B. Smith, Wolcottville, Ct., $10.——*Ewes*—C. B. Smith, $10.——*Ram Lambs*—Geo. Campbell, $5.

SWINE.

Boars—*Over one years old*—1. Winant Younghans, $10—2. Jas. P. Noxon, White Creek, $5.——*Over six months and under one year old*—1. Wm. Webb, Darien, $8—2. Wm. Comstock, Laurens, $3.

Sows—*Over two years old*—1. Wm. Comstock, 10—2. Wm Hurst, Albany, $5.——*Over six months and under one year*—Wm. Hurst, $8.

Pigs—*Under ten months old*—R. C. Derrick, $10.——*Special premium* to Samuel Morgan, Watervliet, $3.

POULTRY.

Best Lot—John Chadwick, New Hartford, $10.

Dorkings—F. M. Rotch, $3.

Polands—M. D. Wands, Lansingburgh, $3.

Malays or Chittagongs—E. E. Platt, Albany, $3.

Shanghaes—R. L. Colt, Patterson, N. J., $3.

Bantams—E. E. Platt, $3.

Special Awards—Silver Top-Knots—E. E. Platt, $3.

Shanghaes—B. B. Birtland, Greenbush, $3.

Black Javas—Dudley Walsh, Bethlehem, $3.

Chinas, and Cross-Bred Dorkings and Malays—J. M. Lovett, Albany, $3.

Cureassow—E. E. Platt, $3.

Turkies—R. L. Colt, $3.

Muscovy Ducks—R. L. Colt, $3.

Common Ducks—Wm. Robson, $3.

Large Geese—L. F. Allen, Buffalo, $3.

Wild Geese—Edward Van Alstyne, Greenbush, $3.

Bremen Geese—Wm. Robson, $3.

China Geese—R. L. Colt, $3.

Rabbits—R. H. Van Rensselaer, $3.

Fawns—Aaron Sturges, Hamilton county, $3.

PLOWS.

Sod Plow for Stiff Soil—1. Prouty & Mears, Boston, "Centre Draft No. 30," $15 and Dip.—2. Miner & Horton, Peekskill, "No. 21," $10.

Sod Plow for Light Soil—1. Prouty & Mears, "Centre Draft No. 25," $15 and Dip.—2. W. U. Chase, Amsterdam, "No. 7," $10.

Plow for Fallows, or Old Land—1. Prouty & Mears, "Centre Draft No. 5½, $10 and Dip.—2. Miner & Horton, "Peekskill No. 21," $8.

Sub-soil Plow—Prouty & Mears, $8 and Dip.

Side-hill Plow—Bosworth, Rich & Co., Troy. $8 and Dip.

Special Award—Newell French, Rome, "Michigan Sod and Sub-soil," $15 and Dip.

PLOWING MATCH.

1. S. S Smith, Stillwater, $10—2. John Randerson, Schodac, $8—3. Newell French, Rome, $5—4. Eddy & Co., Union Village, Trans.

FARM IMPLEMENTS, No. 1.

Farm Wagon—Christopher Snyder, West Sandlake, $5.

Harrow—J. & R. Downer, Castleton, $3.

Cultivator for corn—Emery & Co. Albany, $3.

Fanning Mill—I. T. Grant & Co., Schaghticoke, $5.

Corn-stalk Cutter—Reuben Daniels, Woodstock, Vt., $5.

Straw Cutter—Wm. Hovey, Worcester, Mass., $3.

Cob-Crusher by horse power—Emery & Co., $5.

Horse Cart—M. O'Brien, Albany, $3.

Ox-Yoke—Emery & Co., $2.

Special Awards—"*Oscillating Roller Axle*,"—S. H. Mix, Schoharie, small Silver medal and Dip.——*Road Wagon*—Gardner Mix, Schoharie, small Silver medal.——*One or two-seated Wagon*—Long & Silsby, Albany, Silver medal.——*Barouche and Buggy*—Lown & Barker, Troy, Silver medal.——*Lawrence Coach, Covered Sleigh, Open two-seated Sleigh, and One Horse Sleigh*—James Goold & Co., Albany, Silver medal and Dip.——*Omnibus*—Eaton & Gilbert, Troy, small Silver medal.——*Roller*—Emery & Co., $5.——*Articles for General and Gardening Purposes*—Emery & Co., Silver medal.

FARM IMPLEMENTS, No. 2.

Carriage Harness—Lyman J. Lloyd, Albany, Sil. medal.

Churn—Emery & Co., "Thermometer Churn with Compressing Dash," $2.

Cheese Press—Hez. Rogers, Clifton Park, $2.

Grain Cradle—Nichols & Baley, Van Buren Centre, $2.

Hand Rakes—David Ray, Chatham, $2.

Garden Rakes—S. C. Blair, Farmington, Ct., Dip.

Hay Forks, Manure Forks, Straw Forks, Grass Scythes, Cradle Scythes, $2 each—D. J. Millard, Paris, Oneida county.

Hay Rigging—W. P. Coonradt, Brunswick, $2.

Special Awards—*Lady's Saddle*—L. J. Lloyd, Dip.——*Saddle*—E. B. Slason, Albany, Dip.——*Grass Scythes and Snathes*—Draper, Brown & Chadsey, Troy, $2.——*Butter Ladles and Prints*—Paul Seeley, Morris, Otsego county, $2.——*Shovels and Spades*—Emery & Co., $2.——*Potato Diggers*—H. Partridge & Son, Medford, Mass., $2.——*Cast-Steel Hoes*—S. P. Reynolds, Unadilla Forks, $2.——*Drawing Knives*, worthy particular notice—Emery & Co.

FARM IMPLEMENTS, No. 3.

Horse Power, on sweep or level principle—Eddy & Co., Union Village, for Taplin's, $5 and Dip.

Horse Power, on endless-chain principle—Emery & Co., $5 and Dip.

Thresher, to be used with horse or steam power—Eddy & Co., $5 and Dip.

Seed Planter, for hand or horse power—J. P. Groshon, Yonkers, $3 and Dip.

Grain Drill—P. Seymour, East Bloomfield, Dip.

Broadcast Sower—P. Seymour, Dip.

Cultivator, for wheat—Enoch Sweet, Brockport, Dip.

Portable Saw-Mill—Emery & Co., Dip.

Corn Sheller, for hand power—Emery & Co., Dip.

Vegetable Cutter—V. H. & N. Hallock, Milton, Dip.

Best and most numerous Collection of Implements made in the State—Emery & Co., $20 and Dip.

MACHINERY AND IMPLEMENTS. No. 4.

Steam Engine for Agricultural Purposes—Hoard & Bradford, Watertown, $25 and Silver medal.

Valve for Engine—S. P. Winne, Albany, Silver medal.

Rotary Sewing Machine—Lerow & Blodgett, N. Y., Sil. medal.

Brick-Moulding Machine—Baker & Gifford, Troy, Dip.

Dairy Steamer—Harvey Bushnel, Utica, Dip.

Corn-Stalk and Straw Cutters—E. J. Burrall. Geneva, Ontario county, Silver medal.

Knives for Straw Cutters, of different construction—Wm. Hovey, Worcester, Mass., Silver medal.

Washing Machines—Van Tuyle & Coons, Lansingburgh, for King's, Dip.

Seed Sower, with Plow attached—Sam. Davidson, Greece, Dip.

Spring-tooth Harrow, attached to Broadcast Sower—S. S Sage, Windsor, Broome county, Dip.

Mowing Machine—G. W. Allen & Co., Buffalo, for Ketchum's, Dip.

Winnowing Machine—Albert Bates, Shanesville, Ohio, for Sanders', Silver medal.

Rake for couch, or quack grass roots—S. Cheever, Bemis Heights, small Silver medal.

Seed Drill—Wm. H. Carr, Philadelphia, Pa., for Crossdale's, small Silver medal and Dip.

Water Filterer—Gideon Myers, Little Falls, Dip.

Dog Power for Churn—Bosworth, Rich & Co., Troy, small Silver medal.

Apparatus for Connecting Wheel-Hubs—Billings & Ambrose, Claremont, N. H., Silver medal.

BUTTER.

25 *lbs. made in June*—1. D. H. Cary, Albany, $10—2. Dow Fonda, Perth, Fulton county, $5—3. Joseph Cary, Albany, Trans.

50 *lbs. made at any time*—1. Jos. Cary, $15—2. Philip Lasher, Saratoga county, $10—3. Jonas Lasher, Saratoga county, $5—4. Jas. P. Noxon, White-Creek, Trans.

Made by Girls under twenty-one years of age—1. Catherine Lasher, Saratoga county, Silver Milk-Cup—2. Henrietta Coons, Brunswick, pair of Silver Butter-Knives—3. A. E. Hall, New-Lebanon, set Silver Tea-Spoons.

Coarse Salt—E. Clarke, Syracuse, Dip.

Ground Solar Salt—J. P. Haskell, Syracuse, Dip.

CHEESE.

100 *lbs. over one year old*—D. C. Beard, Buffalo, $10.

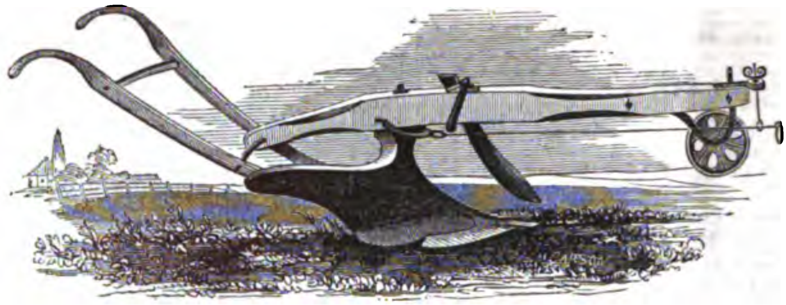
Less than one year old—1. Hildreth & Brother, Herkimer, $15—2. Sylvester Burchard, Hamilton, Mad. county, $10—3. Fox & Colton, Warsaw, Herk. county, $5.—4. Robt. Eells, Clinton, Trans.

Imitation English Cheese—James Linealie, Princeton, Schen. co., Trans.——*Pine-Apple Cheese*—John A. Clark, Albany, Trans.

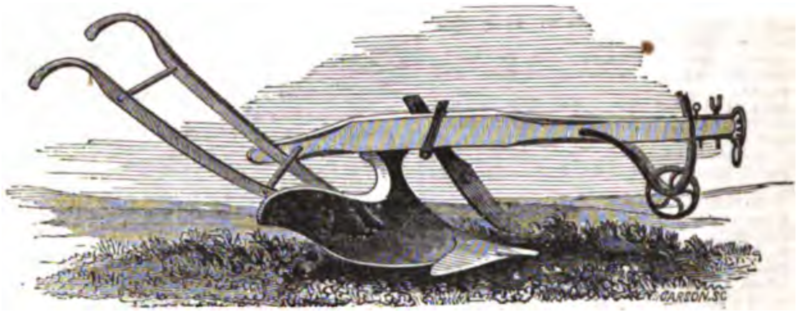
SUGAR.

1. I. Burr, Meredith, Del. co., $10—2. S. McGraw, McGrawville, $5—3. H. F. Shepard, Lawrenceville, $3—4. E. R. Dix, Vernon, Trans.——*Commended*—Specimen offered by J. Hinds, Brandon, Vt.

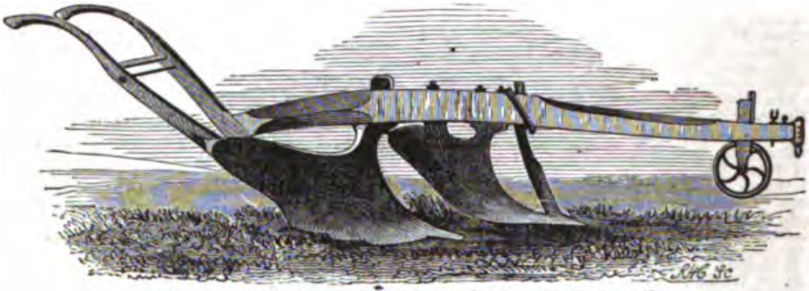
NEW YORK STATE PREMIUM PLOWS.



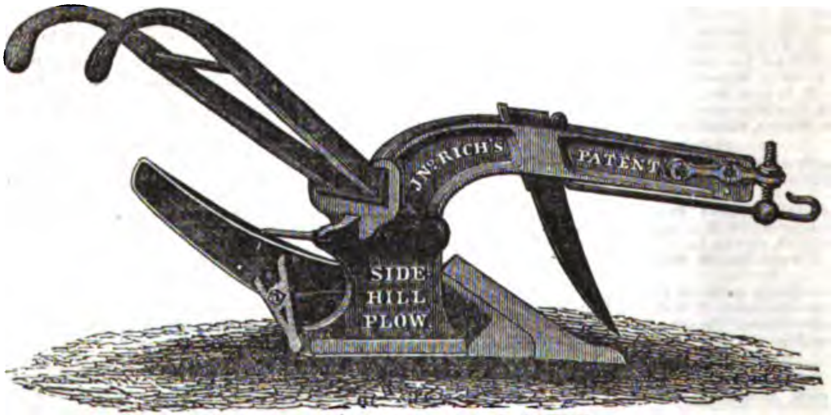
Prouty & Mears' Centre Draft, No. 5½:
Which received the first premium for fallows and old land.



Miner & Horton's Peekskill, No. 21:
Which received the second premium for both fallows and stiff soils.



French & Smith's Michigan Sod and Sub-soil:
Which received a special premium for fallows and stiff soils.



Bosworth, Rich & Co.'s Side-Hill:
Which received the first premium for side-hill plowing.

☞ Cuts of the other Premium Plows will be given in our next.

The Farmer's Note-Book.

New-York State Fair at Albany.

The Tenth Annual Show and Fair of the New-York State Agricultural Society, was held near this city, according to appointment, during the 3d, 4th, 5th and 6th days of last month. It was another grand gathering of the leading farmers, or perhaps we might with more propriety say, the leading *citizens* of the Empire State, with multitudes of our brethren from other States and the adjoining British Provinces. The number of visitors was greater than at any previous exhibition. This is sufficiently proved by the receipts for admission, which reached $10,465.61. The greatest amount received in any previous year, was $8,144.55, taken at Syracuse in 1849. A heavy rain occurred on the day and night preceding the opening of the exhibition, and another on Thursday night following, which doubtless prevented the attendance of some who would otherwise have been present. The rains completely saturated the ground with water, which occasioned some inconvenience; but as an offset to this, they prevented the rising of dust, which, if continued dry weather had prevailed, would have been a great annoyance.

Much credit is due the various railroad companies in this State, for the facilities they afforded the public in attending the fair. They all gave half-price tickets during the week, and carried stock and articles intended for competition, gratis. This is a liberal plan, which we believe gave entire satisfaction, and it has, also, well rewarded the owners of the roads. We are sorry to say that the directors of the road between this city and Boston, but partially adopted this plan. Had they pursued the same course as the New-York roads, the number of visitors from the East would have been greatly increased, and the road would have made, in the aggregate, a much greater amount of money. We presume this latter fact will not in future be overlooked by men who have the general reputation of shrewdness.

Considered in reference to itself, and as a whole, this exhibition may be said to have fully equalled any former one. If, in some of the departments, a deficiency existed, it was amply made up by the fullness and richness of others. The whole number of entries was greater than on any former occasion. The number for horses was 286, cattle 475, sheep 567. The horses and most of the cattle were stationed in sheds provided for them. This shelter was necessary to protect them from the hot sun, to which they must have been otherwise exposed. But in regard to the appearance of the show, it had an unfavorable effect, as it completely withdrew from observation most of the animals which usually constitute so prominent and attractive a feature in displays of this kind.

The occasion has been, generally, one of high gratification; it has afforded the means of obtaining much valuable information, not attainable in any other way, in regard to the various objects brought together; and the vast assemblage collected and dispersed without the occurrence of any accident to lessen their enjoyment.

The people are beginning to look upon these exhibitions in their proper light. On the part of competitors, the principal benefit is not the taking of prizes; it is the opportunity of bringing their animals or articles prominently to the notice of thousands of persons to whom they would otherwise never be known. The objects are not only seen, but they are *compared*, and by comparison, their relative defects or excellencies are made apparent. It is in this way, only, that correct knowledge can be obtained. A farmer, who breeds any kind of live stock, can form no safe opinion of its actual value, without comparing it with other stock of the same breed. So, too, of the mechanic, in reference to his various productions; and in every branch of industry, improvement can only be estimated by comparison.

Nor is the advantage of comparison of less consequence to purchasers than producers. In procuring a horse, a cow, a yoke of oxen, or a plow or other implement or article, it is, of course, desired that it should possess the properties which would fit it most perfectly for the purpose to which it is to be applied; and by having side by side the various descriptions, a discriminating eye is able to select the best, with almost infallible certainty. These advantages are distinct and independent of the awards of premiums. The people, so far as they have the opportunity of seeing for themselves, generally form their own opinions, and are but little influenced by the decisions of others.

Horses.—The display of horses was hardly equal in respect to *quality*, to the shows of the two preceding years; yet there were noble specimens in the different classes. In blood horses there was but little competition. Among those on the ground, we noticed the celebrated "Trustee," the sire of the famous running mare "Fashion." Though bearing evident marks of age, he still shows some excellent points. His head and eye have the striking lineaments and expression so justly admired in the Arabian horse; his limbs are clean and sinewy; the fore leg, in particular, is remarkable for the length of arm, and for the width and shortness of the shank. "Leopard," an imported horse, owned by O. K. Lapham, of Keeseville, is an animal of much nerve and fire; rather tall, and somewhat light in the forehand for hard work and endurance, but not too much so for a racer. "Consternation," now owned by Mr. Burnet, of Syracuse, has heretofore recieved the first premium in this class, and is a horse of well-deserved reputation. "Young Alexander," owned by Mr. Ireland, has also received the first premium as a blood-horse, and attracted here, as on former occasions, much attention.

In the class of "all work," we noticed the well-known "Morse's Grey." Several of his progeny were also on the ground, which did credit to the sire. The young horses by the celebrated Vermont Black-Hawk, shown by Messrs. Felton, of Ticonderoga, Breed, of Crown Point, and Bigelow, of Bridport, Vt., were animals of fine appearance, and good action.

Among "draught horses" was a stallion owned by Joel Young, of New Scotland, got by the imported horse "Sampson," and another owned by Wm. A. Keese, of Keeseville, by the same sire, both of which were good specimens of this class of horses, as was also a five-year-old mare of the same stock, weighing 1400 lbs, exhibited by E. Corning, Jr., of Albany.

There were several pair of handsome matched horses. Those of Mr. Plumb, of this city, and Mr. Faxton, of Utica, were much admired.

Among the young horse stock deserving particular notice, was a pair of yearling geldings, owned by Wm. B. Seymour, of Clinton, Oneida county.

Cattle.—There was a greater number of cattle exhibited, than for several previous years. The fat cattle were not as numerous as at Syracuse, and the

Devons were not out in so great numbers. There was more competition in Short-horns, and they were in general of better quality than they have been for several previous years. The most extensive exhibitors of Short-horns, were Messrs. Vail of Troy, Sherwood of Auburn, Rotch of Butternuts, Hillhouse of Watervliet, and Chapman of Clockville. There were other competitors who showed in less numbers. Col. Sherwood's "3d Duke of Cambridge," and several other animals shown by him, imported during the past and present season, are very superior specimens of Short-horns. The bulls of Mr. Thorpe of Albany, Mr. Vail of Troy, Mr. Chapman of Clockville, Mr. Lathrop of Massachusetts, Mr. Miller of Canada, were animals of much merit, each of which had their respective advocates. Two young bulls, lately imported, shown by Lorillard Spencer, Esq., of Westchester county, were among the best animals in this class. They were of good size and form, and evidently of thrifty habit. There were many excellent cows. Among several, it must have been difficult for the committee to apportion the awards. The red cow of Mr. F. M. Rotch, two of Mr. Hillhouse's cows, Mr. Vail's "Esterville 2d," Col. Compbell's, and one or two of Col. Sherwood's, were all fine cows.

The display of Herefords was smaller than last year—there being but fifteen of this breed on the ground. There were among them some first-rate animals. The four-year-old bull shown by W. A. Keese, of Peru, was in all points a beautiful and good animal. Mr. E. Corning, Jr., of Albany, also exhibited a good bull and several cows, and some young stock. His cow, "Victoria," will compare favorably with almost any cow we have ever seen, and without intending any invidiousness, we think she was not excelled by any on the ground, in respect to a combination of useful qualities. Mr. Keese's "Matilda" is also a very valuable cow. In this class, we missed the usual display by Mr. Sotham, of Black Rock.

The Devons were not equal in numbers to the show of last year, but as to quality, were not inferior to any former show. Among the bulls, we noticed "Major," purchased at the Syracuse fair of Mr. Gapper, of Canada, by R. H. Van Rensselaer, of Butternuts. This animal still maintains the appearance and qualities for which he has heretofore received much merited commendation. "Bloomfield," shown by Mr. Hurlbut, Winchester, Ct., is a beautiful and valuable bull; and the bulls shown by Mr. Sanford, of Orwell, Vt., and Mr. Cowles, of Farmington, Ct., were fine. Very fine cows and young stock were shown by E. P. Beck, of Sheldon, Wyoming county, H. N. Washbon, Butternuts, L. C. Collins, of Dutchess county, Mr. Hurlbut and Mr. Cowles, of Connecticut. Mr. Beck's display was less in extent than usual, from his having lately sold a lot of fine animals to the Governor of Wisconsin.

The Ayrshires shown were cheifly from Mr. Prentice, of Albany, and Mr. R. L. Colt, of Paterson, N. J. Among them were excellent stock for the dairy. A bull of a fine dairy tribe, was shown by Mr. Woodford, of Avon, Ct.

Mr. Colt exhibited a heifer and bull lately imported from Hungary. They are of good size for their age, and their skins possess good handling quality. Their form has nothing in particular to commend, though their limbs are good, and they are said to be fast walkers. Their color is iron-grey, and their general characteristics indicate that they are a very distinct and pure breed.

Mr. Colt also exhibited an Alderney or Jersey cow, a most delicately formed and deer-like animal—just such a cow as with constant care as to shelter and feeding, would afford a large amount of cream and butter.

The number of cattle shown as "grades," was much greater than we have seen at any former exhibition. They were chiefly cows and heifers, and among them were many of excellent quality. Deserving special notice, was a cow, four years old, the produce of a "Connecticut cow," by the imported short-horn bull "Marius." She was owned by Thomas Bell, of Morrisania, Westchester county. She appeared to combine, with the most faultless symmetry, nearly every point indicative of perfection in a dairy cow. Several fine heifers of the same stock were shown by Mr. Bell. The cows and heifers of John Townsend, of Albany, and those shown by Isaac Sheldon, of Auburn, were evidently valuable stock.

The fat cattle comprised several fine animals. The four-year-olds shown by Mr. Wadsworth, were decidedly the best of their age that we have ever seen. Indeed we heard it remarked by experienced judges, that they exceeded in symmetry and lightness of offal, any cattle which had ever come to their notice. A four-year-old shown by Mr. Sheldon, of Sennett, was of fine form, and with the advantage of another year, will be well developed. A fat Durham cow, owned by Ambrose Stevens, of New-York, was remarkable for lightness of offal and weight in the most valuable parts.

The working oxen made a good appearance. We saw none of them tried at a load, and cannot say whether or not they were subjected to a trial of this kind. Five yoke of fine cattle were shown by J. S. Wadsworth, and a team of ten yoke, several of which were fine, from Kinderhook, by J. P. Beekman. There were many fine steers, of one, two, and three years old. We noticed, as very superior, both the two-year olds and yearlings shown by S. A. Gilbert, of East Hamilton, and admirably broken and trained by S. A. Gilbert, 2d, a lad fifteen years old. The yearlings were calved the 5th of April, 1849, and weighed at the time of the show, 2200 lbs. They are of almost unexceptionable form.[*] They were a cross of the Short-Horn and Devon,—the color being that of the latter. A very fine pair of two-year-old steers, a cross of Short-Horn and Devon, were shown by B. Benedict, of Alexander, Genesee county. They were broken and trained, in the most perfect manner, by Jervis P. Benedict, fourteen years old.

SHEEP.—The show of sheep may be said to have been quite superior. The large Merinos, commonly known as the "Taintor stock," were shown by Messrs. Bingham, of Vermont, F. M. Rotch, of Butternuts, and L. C. Collins, of Dutchess county. Other Merinos were shown by Col. Sherwood, H. M. Dart, Harpersfield, R. E. Keese, Ausable, J. Hinds, J. S. Pettibone, John Campbell and George Campbell, all of Vermont.

Of Saxons, very superior specimens were shown by C. B. Smith, Woolcottville, Ct., of the stock imported by Smith & Catlin, from Germany. We have on a former occasion expressed a favorable opinion of these sheep. This opinion is fully supported, so far, and we think will continue to be, by the success of the stock in this country. S. H. Church, of Vernon, showed Saxons from his well known flock.

Of Long-Wooled Sheep, the number of really well-bred ones was not large. Mr. Rathbun, of Otsego county, showed some good sheep. But the Leicesters, shown by Messrs. Geo. & Wm. Miller, of Markham, C. W., were the principal attractions in this department. Some of the ewes shown by Wm. Miller, were in form almost perfect models of what a mutton sheep should be; and it is to be hoped that our breeders of this class of sheep, have derived some useful hints from the fine specimens which have been thus brought before them.

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[*] These and the two-year-olds shown by Mr. Gilbert, and the three-year-olds of Mr. Muir, which received the first premium, were sold to Hon. B. V. French, Braintree, Mass.

The South Downs made a very good show. They were chiefly from the flocks of Messrs. Sherwood, Rotch, McIntyre and Wakeman. There were good animals in each of these lots. The fat wethers of Col. Sherwood, and several cross-bred South Down and Cotswold wethers shown by Mr. McIntyre, were capital specimens, and did not fail to attract the attention of those who know good mutton.

SWINE.—This department was not well filled. In numbers, it was less extensive than at any former show for several years, and we saw no animals of remarkable appearance. Some good pigs were shown by Wm. Hurst, of this city, and by Winant Younghans, and Wm. Webb, of Darien.

POULTRY.—There was a much better display of poultry than at Syracuse, though it was hardly equal to the show at Buffalo. Much of the good appearance of this department, was due to R. L. Colt, Esq., of Paterson, N. J., who exhibited specimens of four kinds of geese, and several varieties of fowls. E. E. Platt, of this city, showed a collection of fowls, embracing several valuable breeds. Mr. P. had also a fine specimen of the currassow. Fine specimens of the Dorkings were shown by F. M. Rotch, Butternuts, and very handsome specimens of the Spangled Hamburgh or Bolton Grey fowl, by John Chadwick, New-Hartford.

Some beautiful rabbits, very large, with pendent ears, were shown by R. H. Van Rensselaer, and F. M. Rotch.

DAIRY PRODUCTS.—There was a respectable show of these; but we were unable to take particular notes in this department, on account of the derangement occasioned by the tent in which the articles were placed having been blown down.

The show of FARM IMPLEMENTS was large and attractive; but we think there was less competition, and for this reason less variety, than at Syracuse. Emery & Co., of Albany, filled a building of their own, 100 by 40 feet, besides occupying a much larger area in the open field. In front of their building was a fountain, which constantly sported its beautiful jets of water, and added much to the ornament and interest of the general exhibition. There were other extensive exhibitors of implements, as Messrs. Starbuck & Co., and Bosworth, Rich & Co., Troy, Wheeler & Co., Albany, and Eddy & Co., Union Village. But we must reserve our notices of particular articles in this department till our next number.

The "MECHANICS' HALL" contained a great number of useful articles, under the head of machinery, of various kinds, stoves and other contrivances for housewarming and culinary purposes. Considerable of the machinery was kept in operation, the power being derived from a steam engine put up for the purpose by Messrs. Low & Co., of Albany. A power printing press was worked during the exhibition, which explained the art of printing to thousands, by whom it was before a mystery. The process of printing on stone, (lithography) was also here exemplified.

The "MANUFACTURERS' AND DOMESTIC HALL," presented a display which in variety, richness and beauty, exceeded anything of the kind we have before seen; but for want of room, we must defer particular notices till a future occasion.

The FRUIT AND FLORAL DEPARTMENT was well filled. In regard to fruits, we believe the display was, with the exception of peaches, equal to that of any previous year. It was the general expression that this department was better filled than at any exhibition since that at Poughkeepsie in 1844. Among the principal exhibitors were Henry Vail, Troy; Elwanger & Barry, Rochester; R. L. Colt, Paterson, N. J.; Jonathan Battey, Keeseville; E. P. Prentice; Dr. H. Wendell; Isaac Denniston; Elisha Dorr; James Wilson; Dr. March of Albany; L. Menand, Watervliet, and Norman Briggs, Schaghticoke. Among the most attractive objects, was a basket of fruits from Mr. Vail, tastefully ornamented and placed in a conspicuous position, containing 34 varieties of apples, 31 of pears. 10 of plums, 8 of peaches, 9 of grapes, and one Christiana melon. Mr. V. had also a box containing a grape vine, on which were eight well ripened and handsome bunches of grapes. The splendid bunches of black Hamburgh and other foreign grapes from Mr. Colt received much praise. The show of plums from Mr. Denniston and others was very fine.

Of VEGETABLES there was about the usual display. C. F. Crossman, Rochester, made a large contribution to this department. Specimens of blood beets showed by him, were unusually fine.

The ADDRESS by Prof. AMOS DEAN, was received with well deserved approbation. His main subject was "AGRICULTURAL EDUCATION, the training up of the young mind with special reference to the pursuits of Agriculture." This subject was ably and thoroughly discussed, and was shown to lie at the very foundation of improvement in this branch of industry. In our next, we shall endeavor to give a more comprehensive view of Prof. D.'s highly valuable remarks.

Several distinguished gentlemen visited the show grounds, among which were Ex-President VAN BUREN, Gov. FISH, Gen. WOOL, Com. THOS. AP C. JONES, Hon. Mr. FERGUSON of Canada, G. P. R. JAMES, Esq., (the celebrated English literary writer,) and a grandson of Gen. LA FAYETTE, from France. Delegates were in attendance from the Massachusetts Horticultural Society, the Agricultural Societies of Ohio, New Hampshire, Pennsylvania and various county societies in other states.

Steeping Seeds.

My father brought me up strong in the faith that it was essential to success in raising Indian corn, that the seed should be steeped before planting. He was an extensive, carefully observant and successful cultivator, and the first person who made use of plaster of Paris as a fertilizer in that part of our country. An anecdote connected with its first use will illustrate its effects, and show his reputation as a cultivator as well as the sly humour of one of his parishioners.

A neighbor cultivated one of my father's fields in corn on shares, but declined to put on plaster although proffered to him without charge. A division of the corn was therefore made in alternate two rows. On his part (that is, on every other two rows,) thus set out to him, my father had a spoonful of plaster put to the hill.

The effect was truly wonderful. A party of gentlemen in passing, being struck with the luxuriance of the rows thus plastered, inquired of a parishioner the cause of the difference. "Oh," said he, "there is nothing strange about it; the large rows belong to our priest, and the small ones to one of his people."

My own practice, like that of my father, as long as I can remember, has been to steep the seed some twelve hours in warm water, and then roll it in plaster. I have, also, for many years, carefully experimented with the various steeps recommended in our horticultural and agricultural publications. This spring I used a solution of carbonate of ammonia and chloride of soda in my garden, and my seeds came up finely; far better than usual, although there has been a very general complaint with us, especially in the early part of the season, of seed perishing in the ground.

For my beet seed I used the carbonate of ammonia with the most gratifying results. Indeed there was not a single plant missing on my two beds. I therefore tried the same upon my second planting of corn. It came up a week or more, before a few hills which I planted dry along side, and for some time continued far in advance. This, I then considered, a convincing illustration of the benefits of judicious steeping.

After a while, however, I found that which was planted *dry* becoming more stout and vigorous, and of a deeper green. It gained fast upon the other, and has now far surpassed it in size, strength, and in general vigor.

On the 15th of June, I planted a square of my garden for late corn, using *dry* seed of the shriveled sweet variety. On the morning of the 6th day from planting, it was up two inches, and perfectly even, and on the 10th day, it was eleven inches high. The same rapidity of growth has continued to the present time, notwithstanding the recent dry weather. To-day, July 13th, just four weeks from planting, it is four feet four inches (4 feet 4 inches) high, and of uniform size and strength. (July 18. It is now six feet two inches (6 ft. 2 in.) high, a growth of more than 2¼ inches per day from the time of planting.)

If, therefore, the soil is rich, and in proper tilth, why should it be necessary to steep the seed at all. Plants will not flourish in water or in medicated water merely. They need for their sustenance and growth the peculiar nourishment which is to be obtained only from the soil. May we not reasonably infer that the moisture contained in the soil when in proper condition possesses some nutritive properties which are not to be found in water alone. If so, then the water absorbed by the seed in steeping must be prejudicial, since it takes the place of, and excludes from the seed and the germ, the fertilized moisture of the soil. There is danger, too, of injuring and enfeebling the germ itself in steeping, all which will be avoided by using *dry* seed.

I am disposed to think that this matter deserves consideration. The principal advantage of steeping, is to hasten the germination of the seed, and thus to get the plants up as soon as possible. Earlier planting, however, will, of course, bring the plant out of the ground at the same time, and if the crop proves equally vigorous afterwards, will answer the same purpose, and probably with less risk.
Charles Robinson. *New Haven, July* 13, 1850.

Agricultural Capacities of Wisconsin.

Eds. Cultivator—In pursuance to a call in one of your late numbers, asking for information in regard to Wisconsin as a farming section, this is submittted.

The country is bounded on the Lake shore by a belt of heavy timber, varying in width from five to forty miles, running its whole length. All of extreme north-eastern Wisconsin, is covered with timber, consisting of pine, oak, bass-wood, hickory and beach; and bordering all the streams, timber grows to a great height and thickness. The balance of the country is generally distinguished by oak openings and prairies. From the center of the State south, prairies prevail, with considerable low wet prairie, and a scarcity of timber. Going from the center of the State north, the country is found higher, drier and more rolling. Here the prairies are smaller, being, generally, from one to ten miles in length by two to five or six in width. Timber is abundant for all the wants of the country; the streams are very numerous, affording an abundance of water power, and in point of health the country is not surpassed by any in the world—the climate is decidedly dry, and is considered good for pulmonary complaints. The Wisconsin river rises in the north-west part of the State, and runs south-west to the Mississippi; the Fox river rises near the same source, (see map,) and runs south and east to Green Bay. Both these rivers are navigable for steamboats, and at the Portage, or Fort Winnebago, approach within ¾ of a mile of each other. The General Government appropriated 500,000 acres of land to improve these rivers—to cut a canal at the portage, (which is about completed,) and deepen and clear out the channel, &c. This improvement is being prosecuted with great vigor, and will be completed during the ensuing year. Then a southern or eastern market is offered the choice of the farmers of Northern Wisconsin. A charter has been obtained for a Railroad from Fond-du-Lac, on Lake Winnebago, to Beloit, in the southern part of the State. The money to build the road will be procured on most favorable terms from England—negotiations to that effect having already taken place. This road will open the center of the State south and north, to the markets of the east.

Our school fund will be the best of any State in the Union, estimated at over three millions—common schools will be free to all. There is also a university fund, consisting of 500,000 acres of selected lands.

The inhabitants are mostly Yankees, principally from New York, Vermont, Maine and Ohio, and will compare favorably in morals, general intelligence, and active enterprise, with any people in the world.

It will thus be seen that in point of position, Wisconsin, having the Mississippi river on its west, Lake Michigan on the east, with the Wisconsin and Fox rivers and Green Bay running through the center of the northern part, is unsurpassed in facilities of getting to market by any of the western States.

The Wolf river is a large and deep stream that empties into Fox, near Lake Winnebago. This river is now navigable for steam-boats 150 miles, and penetrates one of the best "pineries" in the world, where now is manufactured, annually, many million feet of lumber. Pine lumber is worth from $6 to $12 per 1000 feet. The soil is excellent, resting on lime-stone; it shows at first a black vegetable mould from 10 to 40 inches thick, next a yellow mould mixed with lime-stone pebbles; then coarser limestone, gravel and boulders, and then the rock. The soil varies in depth from 8 to 20 or 30 feet. The sun does not shine upon a better or a more beautiful or bountiful country for farmers. Winter and spring wheat, rye, barley, oats, corn, buckwheat, potatoes, turneps, and vines of all kinds, grow to great luxuriance and profit. I have nowhere seen finer garden vegetables produced. The prairie land, owing to its fertility, and the ease with which it is subdued, has the most admirers. On a prairie farm, one man can till 3 acres as easily and well as the same labor on one acre in New-York. Average crop of wheat is 25 bushels, though 40 is not uncommon—corn 50, oats 40, rye 30, &c. A most profitable business would be dairying—this having received least attention, and butter being worth 1s. to 1s. 3d. per lb., and cheese 8 to 10 cts. Any amount of good hay, (red top and blue joint) can be had for the cutting. Sheep also are most profitable. It would be impossible to find finer ranges for sheep than on the Wisconsin prairies. Sheep brought from Vermont are found to increase one-third in carcass, while the wool increases equally in weight and quality. Wool can be delivered in Boston for 2 cts. per lb. There being no under-brush or dirt, the wool is remarkably clean and straight. Sheep can be kept the year for 20 cts. a head. Fruit, also, would be very profitable, having as yet received scarce any attention. All the best portions of the country are now in second hands, although many thousand acres are still subject to entry at government prices—$1.25 per acre.

I have given you a rapid sketch of the country, and will feel well repaid if it meets the wishes of your inquirers. I will be hapy to give any further information if addressed, post paid; and will say, in this connection, that I have the sale of 400 acres of land in this town, 20 miles from Fond-du-lac, where is daily steam communication with Green Bay—200 acres is prairie, balance timber, oak openings and meadow land, with fine stream of pure water running through it—100 tons of the best grass can be cut. There is two good houses, barn, stables and out-houses, and 200 acres under fence and cultivation. This land was selected seven years ago—price $10 per acre, will be sold whole or in part. Respectfully, &c., C. H. Green. *Waupun, Fond-du-lac co., Wis., August* 23, 1850.

Treatment of Birds.

In looking over a bundle of old letters, &c., the other day, I found the following sketch, written about ten years ago, to a correspondent. Of course, it was not intended for publication. At this time, however, when some very ultra notions on the subject of birds are taking the rounds of the newspapers, perhaps your readers would be willing to hear something on the other side. D. T. 7 *mo.* 30.

I am fond of ornithology, but not of all its subjects. There are great villains that *fly* as well as *walk*. For practical purposes, birds should be divided into three classes; and we ought to regulate our enmity or favor accordingly.

1. Such as live on the products of our labor, and render no benefits in return.
2. Such as prey on those products in part, and in part on destructive insects, &c.
3. Such as assist us without committing any trespass.

Of the *first class*, perhaps there are very few, but the cedar bird certainly ranks among them; and I should name in the same indictment the larger hawks, and the larger owls.

The *second* is a very large *class*, and contains the smaller hawks and the smaller owls, both useful to some extent in catching mice, besides the crow which eats grubs. In selecting from this class, such as should be fostered or repelled, however, much discrimination is necessary. Many birds that are useful, claim high wages; and we must judge whether we can afford to employ them, or not. Of this kind are the robbin, the cat-bird, and the woodpecker, who work some and plunder some.

My rule is, if but few come, I bear with them; if many, I thin them—I have no notion of giving the whole crop to pay for destroying a few insects; and it is but few insects that we care much about, that they do destroy. The worst kinds they generally leave untouched.

I know some people say, "you should not kill the birds." "Doctor," said a lady in my presence, to an M. D., "I have never thought so well of you since I heard of your throwing stones at the birds that came to eat your cherries." Yet I am confident that lady herself would throw a stone at a hawk that came to eat her chickens, or broomstick a rat from her meal-tub or pantry.

"O, that is a different affair!"

Is it? Now let us be consistent, and carry out our principles fairly. Rats are useful—they eat worms, and even one another, when they are very hungry; and why should they be punished when birds equally predatory are allowed to escape?

"Rats are nasty things."

Then they are killed for being nasty! and birds are saved for being pretty! It appears, then, that *partiality* or *prejudice*, and not *principle*, rules. Do as you like, but ascribe the action to its proper motive, and try to be charitable towards others who differ from you.

The *third class* is worthy of all our care and protection. This includes all our sparrows, all our swallows, all our fly-catchers, (for the king-bird only eats the drones) and many others. In regard to such, I should say most emphatically, "Fowler, spare that bird!"

"All work and no play makes Jack a dull boy."

Eds. Cultivator—Perhaps there is more truth in the above line than is generally imagined. I, for one, believe that there is more truth expressed in this simple phrase, than in many a gilded volume, whose decorations poorly compensate the reader for the nonsense found within.

Farmers, in New England especially, labor too hard. The sole object, with too many of them, is to get money—to increase their possessions. They seem to think that a man's happiness depends upon the number of dollars he has—that enjoyment rises or falls in proportion as wealth increases or diminishes. Now this is a very common error, and one which we are all liable to fall into. We naturally suppose that wealth and happiness go hand in hand, but we often find ourselves mistaken. The man who labors constantly—

"From early dawn to gloamin' grey,"

infringes one of the most important laws of his being. He cannot cultivate his mental powers if he would, for the simple reason that excessive labor so weakens the brain that he feels no disposition to study, and would find it impossible were he inclined to do it. We all know that by overloading the stomach with food we are rendered weaker, both physically and mentally. The stomach is then compelled to rob both the muscles and the brain, in order to throw off this excess of food. It is just so with the muscles; when they are over taxed, the brain and the other organs must suffer in consequence. And upon the same principle the brain, when too severely taxed—which there is little danger of among us at present—it will require more than its share of nervous energy in order to supply the demand made upon it.

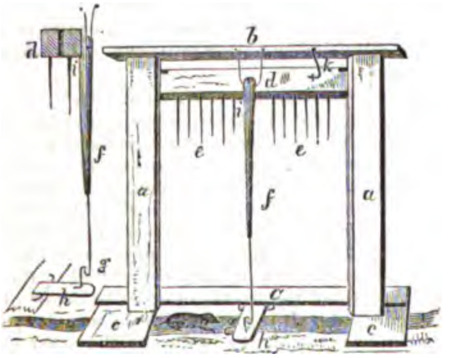
In order to follow the laws of Nature—which no one can transgress with impunity—we should never cultivate one set of organs while another lies dormant. The mind of itself does not form a man, neither does the body, but both combined, when pro perly balanced, form a man perfect in every respect. Farmers often complain that their boys, instead of following in the "good old way," are glad of a chance to learn a trade, or get behind the counter. Now I do not wonder at this in the least. We expect too much of them. They are made to work with no inducement but that of necessity, and then we wonder that they "hate farming!" The less boys are required to work beyond their inclinations, the better. Not that they should lie dormant, but let them have proper inducement, and there will be little danger of laziness. They require those energies for growth, which grown people can expend in labor; consequently if we require hard labor of them we injure their health, and induce premature decay. Excessive labor, even if it does not break down their constitutions, has a brutalizing effect, as it extinguishes all love of study, and renders them capable only of animal feelings and enjoyments; thus turning into a curse, what, properly regulated, is man's greatest blessing, and most prolific source of enjoyment. SYLVANUS.

Mole Trap.

In answer to several inquiries for a plan of a mole trap, we give the accompanying cut and description, which was originally furnished for the *Horticulturist*. EDS:

This newly invented trap consists of a frame, composed of two uprights, *a a*, about 22 inches high, joined by a top board, *b*—the whole fastened on a foot or base *c C c*. *d* is a heavy piece of scantling or block, which by means of grooves is guided along the uprights up and down. In the lower part of the block are inserted a number of sharp steel pins, about seven inches long in the clear. In the part *C*, of the foot-board, is attached a small piece of thin board in the manner of a pedal of a piano forte, which, when the trap is set, crosses the passage of the mole. *f* is a wooden latch, suspended by a wire from the cross-piece of the frame, and terminating with a wire hook, *g*, at the lower end, somewhat flattened. In the upper part of the latch is cut a notch or shoulder, (*i*,) as a rest for the pin block when the trap is set.

Set the trap lengthwise over the passage draw the block up and fasten it by the wire hook, *k*, to prevent accident to the trapper; place the apparatus over the passage of the mole in such a manner that when the block falls it will come exactly in the middle of the passage. The ground under the trap in the passage should be taken out and the bottom levelled, and the sides padded and made hard. The ground taken out should be freed from obstructions, and placed again loose in the passage; but before this is done, the block should be tried if it operates well, and falls right in the passage. Then hang the hook of the latch into a similar hook, projecting upwards from the pedal, so that they may seperate upon the slightest touch, by the lifting of the ground on either side by the mole, which in an instant brings down the block and pierces the animal through.

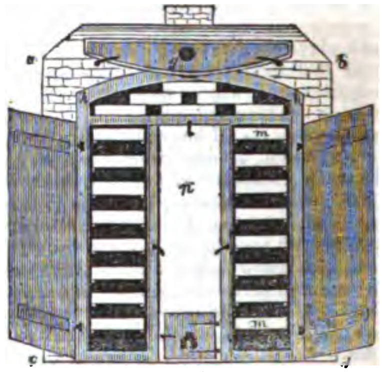


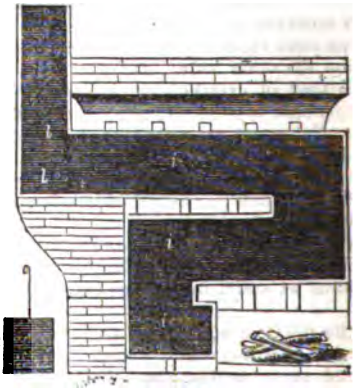
Drying Fruits.

We cannot better comply with several requests for information on the subject of drying fruits, than by the insertion and description of the annexed cuts. The apparatus was made in Germany, and was designed chiefly for drying prunes, but it will answer equally well, with slight modifications, for drying peaches, or apples. It is described as follows:

"The vault or exterior of the oven, four and a half feet long, is surrounded by a brick wall one foot thick, so that the whole stove, *a b c d*, is exactly six feet every way; the front wall, *n*, being only half a foot in thickness. At the top, the vault is arched over with six inches of brick work at the crown of the arch. The flues, *i i*, are about fourteen inches square. The hurdles or trays, *m m*, for containing the prunes, rest upon shelves, fixed upon two bearers. It would be better if they rested upon *rollers*, so as to admit of their being pushed in, and drawn out, with greater ease. These lines of trays are placed at a distance of six inches from the furnace, so as to keep the fruit from too great a heat; they may be made entirely of wood, but it will be better if the bottoms are of open work, like sieves. Their weight is such that they may be easily managed by a woman; but in preparing prunes on a large scale, let them be made of greater length and breadth, so as to just come within the strength of a more robust person.

"The wooden frame, *h h*, is that on which the two doors are hung. The door, *g*, which covers the





arch, (and which is represented in the cut as open and fastened up,) shuts up the front of the upper part of the oven. In the middle of this upper door or flap, is a round vent hole, for the escape of the moist vapor. *k*, is an iron damper, or slide, to be placed in the flue at *l l*, in order to regulate the heat."

Locusts and Grasshoppers.

An impression prevails among our people that the *Cicada Septendecim*, commonly called the "seventeen years locust," is the same insect, or a species allied to it, which, under the name of locust, sometimes commits fearful ravages on the vegetation of some eastern countries. The two insects bear but little resemblance to each other. The Cicada feeds wholly under ground, and on the roots of plants, during the period of sixteen years which it requires to reach its perfect or winged state, and during the latter state it eats *nothing*—the damage it occasions, being caused wholly by the perforations of branches of trees, by the female, in preparing receptacles for her eggs.

The true locust—(*Acrydium*)—on the other hand, is an insect whose whole period of existence is but one season; it feeds entirely on the leaves and stalks of plants, and its voracity is such that it devours every green thing it can reach. It is what is popularly called, in this country, a grasshopper, though naturalists, very properly, make a distinction between grasshoppers and locusts. The "red-legged grasshopper," so called,—the most devastating species, perhaps, belonging to this country,—is considered by Dr. HARRIS as a proper locust, which he calls *Acrydium femur-rubrum*. It is this species, principally, which has overrun different sections of our country, and caused very great damage by eating up the vegetation of all kinds. They prevail most in dry seasons. Heavy rains, or continued wet weather while they are young destroys them in great numbers. We think it probable that it is this species which has been very numerous and has done much injury the present season, in some of the northern counties of Ohio, where a severe drouth prevailed in May and June. A correspondent of the *Ohio Cultivator*, writing from Erie county, in that State, under date of Aug. 8, says he had never seen grasshoppers (locusts) in anything like such numbers before, as they have appeared this season. "They covered the fences by the road-side—the bushes and small trees were loaded with them, when they went up to roost, so as to bend as with a crop of fruit. I only saved my peach crop in my newly grafted orchard of 500 trees, by driving them off the trees just at evening every night for weeks together, otherwise they would have stripped the leaves all off, and left the fruit bare, as they did in some cases after all our efforts. In many meadows they left scarcely any thing but the bare stalks, and our pastures are gnawed to the ground, notwithstanding the abundant rains. Oats and potatoes are also badly injured by them. They have been taking themselves off for a week in large numbers. They fly so as to fill the air like a swarm of bees, for hours together, in the middle of the day, almost invariably taking advantage of a lake breeze to waft them south, and flying at a great height, are not perceivable except by looking towards the sun."

This migratory habit is possessed by several species of locust. We have accounts of their flying in such numbers in oriental countries, as literally to fill the air, and obscure the sun at noon-day. The same propensity has been manifested by the "red-legged" species above mentioned. The late President DWIGHT, of Yale College, notices their appearance in Massachusetts and parts of Vermont in 1797 and 1798. He observes:

"At times, particularly a little before their disappearance, they collect in clouds, rise high in the atmosphere, and take extensive flights, of which neither the course nor the direction [?] has hitherto been discovered. I was authentically informed that some persons employed in raising the steeple of the church in Williamstown, were, while standing near the same, covered by them, and saw, at the same time, vast numbers of them flying far above their heads."

Thick and Thin Seeding.

The proper quantity of seed, for the various grains, to be sown to the acre, is a subject on which much has been said and written, especially in England, where many experiments in relation to it have been made. The question cannot be fully settled, without a long series of carefully conducted experiments, made and *repeated* under the same circumstances.

The *Transactions* of the N. Y. State Ag. Society for 1849, contain the results of some trials, by Mr. ADAM CLARK, of West-Dresden, Yates county, in sowing various quantities of wheat to the acre. The communication of Mr. C. was referred to a committee, of which JOHN DELAFIELD, Esq., was chairman, who submitted a report from which we take the following:

The experiments of Mr. Clark show that wheat planted uniformly at distances of 1¼ inches apart, will require about 224¼ lbs. or 3 bushels 44¼ lbs. per acre. This weight of wheat consists of about 2,890,320 grains. Mr. Clark planted a portion of ground in this manner, which was harvested at the proper season and thrashed on the 22d of August, and weighed on the 17th December—estimating every ounce to contain 800 grains, as weighed by him. The product of an acre similarly treated produces 63,248,000 grains, or 4,160 lbs., which is equal to 69 bushels 10 lbs. of wheat per acre.

The second experiment shows that about *two bushels* of wheat, or 126 lbs., sowed on an acre of ground at the uniform distance of *two* inches apart, will yield 3,580 lbs. of wheat, or 59 bushels 40 lbs. per acre. In this experiment the number of grains sowed to an acre is about 1,616,000.

It has been usually estimated that in broad-cast sowing of wheat under favorable circumstances as to weather and condition of the soil, the average deposit of seed is 48 grains per square foot; if so, an acre of broad-cast requires 2,090,880 grains; and estimating this quantity at the weight of Mr. Clark's wheat, it gives 2 bushels and 44 lbs. per acre. It would have been advisable to measure and weigh the seed *before* planting, as well as after harvest, as season and cultivation may essentially vary the relative quantity and quality of the seed and the product. We would have been pleased to know, also, whether every seed planted, arrived at maturity; if not, what proportion was imperfect or destroyed. It is well known that a large per centage of the wheat sown broad-cast is lost to the farmer. We need therefore very exact observation, to approximate a fair estimate of comparisons.

The following is the substance of Mr. Clark's statement:

On 23d September, 1848, I prepared four beds of ground to plant with wheat, on a summer fallow that had been twice plowed during the summer. The ground was prepared by finely pulverising it with a hoe and rake, to the depth of eight inches. Four beds were accurately measured, each one-fourth of a rod square, leaving a walk of about 7 inches between them; they were numbered and subdivided as follows: No. 1, in squares 1½ inches each way; No. 2, about 2 inches; No. 3, a little short of 3 inches; No. 4, 3½ inches, including the outside lines of each bed. Then with the thumb and finger I carefully dropped a kernel of wheat in the corner of each small square, of No. 1 and 2; then, with a stick prepared for the purpose, I placed each grain 1½ inches below the surface, and then with the head of a rake made the surface entirely smooth. On Monday, 25th, I planted Nos. 3 and 4 in the same manner; they were all planted with the Soule's variety of wheat—the seed dry, without any preparation. The soil is a clay loam, with a slight inclination to the north and north-west, and fully exposed to the winds from those directions. I used no fertilizers, except a little Gypsum; on 17th of May, while sowing on the rest of the field, I gave the bed a slight coating at the rate of from 1½ to 2 bushels per acre. Harvested July 25th, 1849, with a hand cradle and bound it in sheaves and carried it into the barn in about two weeks. The parcels carefully shelled and kept separate. On the 22d August, each parcel was weighed separately, by sealed scales, the result of which may be found in the annexed table. On the 17th of December, 3 oz. were weighed in sealed scales, and by counting all the grains weighed, I found that there were 800 grains in an ounce. An estimate of the amount of seed planted is made from this data, as well as the average product from each.

No. 1.—Number of grains planted 4,488; weight of product in pounds and ounces, 6 lbs. 8 oz; amount of seed sown per acre, 3 bu. 45 lbs.; yield per acre in bushels, 69 bu. 20 lbs.

No. 2.—Number of grains planted, 2,525; weight of product in lbs. and oz., 5 lbs. 9½ oz.; amount of seed sown per acre, 2 bu. 6 lbs.; yield per acre in bushels, 59 bu. 40 lbs.

No. 3.—Number of grains planted 1,206; weight of product in lbs. and oz., 4 lbs. 12 oz.; amount of seed sown per acre, 1 bu; yield per acre in bushels, 50 bu. 40 lbs.

No. 4.—Number of grains planted, 870; weight of product in lbs. and oz., 4 lbs. 4 oz.; amount of seed sown per acre, 43½ lbs.; yield per acre in bushels, 45 bu. 20 lbs.

"Notes on American Farming."

The March and July numbers of the Scottish *Quarterly Journal of Agriculture* contain several pages under this head, purporting to have been written by an Englishman who has spent some time in travelling in this country, and particularly noticing its agriculture. His remarks, in general, are expressed in a kindly spirit, and we think he *intended* to give a fair view of our farming, as he saw it; though he has, nevertheless, fallen into occasional errors—the result, perhaps, of limited observation, and the want of practical knowledge, in some instances, of the subjects on which he speaks. We make some extracts, both for the purpose of correcting errors, and to show how some of our resources and products, as well as some of our customs, strike the mind of a stranger. In regard to the cultivation of fruit in this country, the writer says:

"In scarcely any department of cultivation has there been such a decided improvement as in that of fruit. At present, throughout the whole Union, there is quite an excitement in the object of raising fine fruits. Numerous societies have been formed for the purpose of giving encouragement to cultivators, and not a few of the pages of the agricultural papers are devoted to accounts of improvements, and of new fruits raised. It is the general opinion that the time is not far distant when the export of fruit will exceed in amount (that is to say, if there is a demand for it) that of any article of export.

"To judge of the value and importance of this crop to the agriculturists of the States, it must be remembered, that what we have been describing as the flourishing condition of only one State is but the type of others. In the Northern States there are numberless orchards, not only of pear and apple, but of peach and other fruit trees. 'There are peach orchards in New Jersey and Delaware occupying upwards of a hundred acres each. There is one at Reybold's, covering a thousand acres. The crops of this latter orchard are so large as to give constant employment to two steamboats and a schooner in conveying the fruit to market.' And attached to almost every farm there is a large or small orchard. One of the most striking curiosities of New-York, in the fruit season, is the various steam and sailing boats bringing their freights to the market. Last year we frequently went to the markets, and were abundantly repaid for the trouble. We certainly never expect to see such a gorgeous display of fruit again. As might be expected from the statements we have given, fruit is everywhere cheap. Peaches, large, luscious, three a-penny of our money; some particularly large, one and two cents, sometimes four cents a-piece—the latter would have been charged a shilling or two here. The crop of apples was last year considered a failure, and yet we have bought three beautiful ones for a cent. No one in this country can have an idea of the amazingly rich flavour of some kinds of American apples. Those so highly prized here, as real Americans, convey no idea of the best quality of fruit to be obtained for a mere trifle in the fruit-growing States."

The writer seems highly pleased with most of our farm implements. He says:

"The agricultural implements in the United States are much lighter in construction than in this country, the plows particularly so. These are well adapted for the peculiarities of the land. It would be impossible to plow land recently cleared, with all the stumps and roots scattered here and there, with the heavy plows of this country. It is astonishing to see how easily the farmer turns aside from the stumps; and even should he fall foul of one, the plough is so light, that he can *fillip* it past the obstruction very easily. Old Country-farmers are disposed to find fault with them, but they are soon taught to perceive that they are very well adapted to the kind of labour they have to perform. With reference to other implements, the same rule holds. The hay-forks are amazingly light and handy: a young boy can easily use them. Scythes, hatchets, &c., are all made exceedingly light and portable, and in this we think the Yankees show real wisdom. There was no real utility to be gained by having huge heavy instruments to deal with. A farmer who had had, both in this country and in America, much experience as a hard-working man, told us that the result of his experience was, that more work could be done in the same space of time, and with less of fatigue, with the Yankee tools than with those of this country. The axes used for felling trees are very light: we must confess that, at first sight, we thought that heavier heads would have been better; but a sight of the execution they performed in good hands, on the sturdy sons of the forest, soon showed us our mistake. The 'horse rake' is almost universally used for gathering the hay off the fields, and forming it into 'cocks.' There is scarcely such a thing as reaping corn by hooks, as here performed.

the common scythe, or more generally the cradle-scythe, being used. It is astonishing how much one man can cut down in a day. There is great rivalry in this point amongst farm-servants."

On the subject of fences, the writer complains of our "horrible slovenliness." He admits, however, that "on all well-conducted farms, the fences, &c., are admirably constructed and arranged;" but adds, (and we confess there is too much truth in the remark,) that "this, unfortunately, is the exception, not the rule." The zig-zag or "worm" fence, common in some sections, was regarded as particularly unpleasant to the eye, though the writer admits "it is really very strong, and capable of resisting considerable opposing force," and he concludes, that where wood is plentiful, it is not so bad a fence after all. He thinks our farmers "are very fond of this fence, ugly and cumbersome as it is," and says he was informed that this attachment is so strong "with some old people, that when they build wall fences, they build them in and out, in the same zig-zag way." This singular mistake was probably derived from the fact that in some places where only a few stones, and those of not very good quality for making fence, are to be had, it is sometimes practiced to lay them up in the way mentioned, for the purpose of forming the under part of the fence, topping out with rails, to the requisite height. This form gives to the fence much more stability than it could have if laid straight.

In regard to animals used in farm labor, he falls into a striking error. He says—"*Oxen are invariably used for farm purposes*, carting of hay, &c. Some of these animals," he continues, "are really wonderfully well paired. A friend of the writer's had a pair so beautifully matched, so alike in respect to color, size, and even shape and length of horns, that it was difficult to distinguish between the two. Farmers vie with one another in raising handsome, well-paired oxen. Much more attention is now paid than formerly, to the raising of stock."

The growth of vegetation, is represented as being *wonderfully* rapid. "In the Northern States, though the winter can scarcely be said to be broken up till April, *barley is generally ready to cut early in June;* wheat is ready towards the end of the same month." This would truly be a rapid growth for barley. It is seldom sown before the first week in May, and not unfrequently as late as the second week, and if it gets ripe even a *month later* than the time this writer gives, it is thought to grow pretty quick.

In regard to Indian corn, he observes—"it is the staple commodity of American farms; it is used in all kinds of ways. *One variety* (!) is taken in its green state and boiled. Its flavour is remarkably fine, and resembles very much that of green pease!" To the latter expression, we can only say, "there is no accounting for tastes." He further says in regard to Indian corn—"Some *species* (?) grow very high; we have seen stalks ten and twelve feet in height." If he had gone into some of the rich valleys of the west, he might have seen it growing to the height of sixteen to eighteen feet.

In relation to the character of farm laborers, and the facilities afforded them for the acquirement of property, the writer remarks:

"As a general rule, farm-servants are a very sober, quiet, industrious class,—rarely spending their time and money in public-houses, or needlessly. A sober and industrious man has a fair chance of saving as much money, in the course of twelve or eighteen months, as may enable him to 'go West' and purchase a small lot of land. 'The American labourer, if frugal and temperate, may have his own *lot*, and house, or cottage, and good furniture in it. By the aid of his cow, his garden, female industry, and good management, he may save his wages entire.' Many eminent professional men and statesmen have had just such a humble beginning; and a great majority of wealthy farmers have begun in a similar position. A great help to parties with small capital is the facilities given for the purchasing of land. In very few cases, indeed, is the purchase-money at all demanded. The general way of doing business is paying by yearly or half-yearly instalments. Where the purchase-money amounts to four or five thousand dollars, the time may extend over a period of six or seven years. Credit is universally given: farming tools and seeds, &c., can be got on easy terms."

Royal Agricultural Society.

The annual show of this association took place at Exeter, in Devonshire, in July last. In the department of live stock there seems not to have been as extensive a competition as in some former years, but in respect to quality, the animals were deemed generally equal to those of former exhibitions. An English paper observes:

"The horned cattle were, as usual, divided into three grand classes. Short-horns, Herefords, and Devons. Of the general characteristics of the animals exhibited of the three breeds, we believe we are right in stating that the show of short-horned bulls was indifferent; that of the heifers decidedly good; that of the cows very fair. The turn-out of Herefords of both sexes and all ages was not extensive, but good. The Devons, however, naturally formed the great attraction of the show, and a finer display of animals of this class was, in the opinion of competent judges, never previously brought together."

The Leicester, Cotswold and South Down sheep, appeared in their usual number and excellence.

At the dinner of the society, Mr. LAWRENCE, our minister to London, and Mr. RIVES, our minister to Paris, were honored with seats, and both responded to complimentary toasts.

The Farmer's Every-Day Book;

Or Sketches of Social Life in the Country; with the popular elements of Practical and Theoretical Agriculture, and twelve hundred laconics and apothegms relating to ethics, religion, and general literature; also five hundred receipts on hygeian, domestic, and rural ecomomy. By Rev. JOHN L. BLAKE, D. D. Auburn, DERBY, MILLER & Co.

The leading design of this work is to induce farmers to investigate the general principles of agriculture, by reading the best books and periodicals on the subject, and ultimately to secure such an education for the rising generation, as will enable them to practice the occupation with the best results. The author endeavors in the outset to overcome the prejudice against "book farming;" he has, therefore, to use his own language,—"instead of offering the rural community a large volume consisting of the didactics of agriculture, concluded to treat them with the tit-bits of domestic economy, with hints on education, with prescriptions for health, and especially with instructions for the better maintaining the social relations of life." We think the work is well calculated to interest and benefit a large portion of our rural population. The publishers have got it up in handsome style, and its appearance is altogether attractive. It will be seen that we have given, in another part of this number, an extract from its pages.

Notes for the Month.

Communications have come to hand, since our last, from R. H. Drake, Dr. H. S. Chase, Luther Redfield, A Subscriber, J. Briggs, Charles Nutting, David Hillman & Sons, C. H. Green, T. H. Hyatt, Titrius, W. T. Dennis, D. B. N., D. T. Brown, Chas. Hamilton, J. B.

Books, Pamphlets, &c., have been received as follows:

Report of the Naval Committee on the establishment of a line of Mail Steamships to the Western Coast of Africa, from Hon. F. P. Stanton, M C.

Speech of the Hon. Mr. Bingham, of Michigan, in the House of Representatives, on the bill for the Extension of the Patent to the heirs of Jethro Wood, from the author.

Descriptive Catalogue of Trees, Plants, &c., cultivated in the *Mount Hope Nurseries* of Ellwanger & Barry, Rochester, N. Y., for 1850–'51.

Catalogue of the *Highland Nurseries* of A. Saul & Co., Newburgh, N. Y., for 1850–'51.

Report on Trial of Plows.—It will be seen that we have occupied a considerable part of this number with the report on the trial of plows, which took place near this city in June last. This trial created much interest, and much eagerness has been manifested in regard to the report and awards. Our readers will doubtless be gratified with a perusal of the document.

Draining Tiles.—Mr. A. S. Babcock, of this city, is now engaged in the manufacture of drain-tiles of various descriptions. He has one of the most approved machines, imported from Scotland, and recommended by Mr. Stephens, author of *The Book of the Farm*, and has all the apparatus required for producing the best tiles. Our farmers will now have the opportunity of obtaining this important article in any quantities, and we hope the business of drainage will now be commenced in earnest, as we are convinced that no improvement, if judiciously executed, can yield a better return. The tiles can be shipped to any part of the country. Samples can be seen at this office.

Animals from Africa and Spain.—Thos. H. Hyatt, Esq., our late Consul at Tangier, on his return to this country, a few days since, brought with him several animals—all of which are interesting from their rarity, and some of them are likely to be useful in this country. Among them are a hors of the Barbary stock, an Arabian pony, a wild boar from the Atlas mountains, a beautiful species of African partridge, several rare kinds of doves, and a pair of pigs and some fine fowls from the south of Spain. The horse was left with a gentleman in New York—the other animals, with the exception of the Spanish fowls, were taken by Mr. H. to Rochester. The pony is of elegant form, and is said to be remarkable for speed and endurance. The wild boar is young, and does not yet show any of the ferocity for which his race is distinguished. He is a singular animal, bearing but a distant resemblance to the domestic pig. His head is rather long, the face straight and narrow, the ears very small and upright, the back arched, the legs long and slender. His coat is more like hair than bristles, and of an iron-grey color. What will be the effect of mingling this blood with the domestic stock, cannot be told at present, but we should suppose the stock of such a cross, would be likely to suit such farmers as wish their hogs to be able to *outrun dogs*.

Sale of Short-horn Cattle.—The sale of Mr. Sheafe's cattle took place at his farm in Dutchess county, on the 29th of August. The sale was well attended, and the animals sold at good prices. Twenty-eight cows brought sums varying from $47,50 to $185; calves from $55 to $105; and the imported bull Exeter $500. The latter was purchased by L. F. Allen, Esq., of Buffalo. The sum total brought by the 33 animals in the catalogue, was $4,857.

Pears.—We have received from Mr. Colbert Huntington, of Painesville, Ohio, a box of pears, supposed to be a new variety. The box did not come to hand till the pears were rotten, so that, unfortunately, we had not the pleasure of tasting them.

Sale of Ayrshire Cattle.—The bull and cow which obtained the first prizes in their class, at the late Fair, have been sold by Mr. Prentice to Mr. Tiffany, of Coxsackie. They will furnish a good beginning for a valuable dairy stock.

☞ The Ayrshire bull of Mr. Woodford, of Connecticut, it will be seen by an advertisement, is left for sale at the farm of Mr. Prentice, near this city. He is of good blood, and would be a useful animal to take into a dairying district.

Sale of Stock.—It will be seen by the advertisement, that the cattle, sheep and swine, belonging to the estate of the late Wm. Stickney, will be sold at auction, at Westminster, Vt., on the 9th of this month. It will afford an opportunity for the purchase of very fine animals, and probably at reasonable prices.

Large Product of Butter.—S. P. Chapman, Esq., of Clockville, Madison county, N. Y., obtained the premium for the best dairy cow at the late State Fair, for a Short-horn cow, five years old, bred by Geo. Vail, Esq., Troy. It was stated that the milk of this cow, during ten days in June last, yielded 20 lbs. and 4 oz. of butter; and that her milk during ten days in August, yielded 19 lbs, 14 oz. butter.

Mr. Wm. L. Cowles, of Farmington, Ct., exhibited at the fair a very fine Devon cow, bred by Mr. Patterson, of Maryland. He stated that her milk, during ten days in June last, yielded 16 lbs. 14 oz. of butter. She is of medium size, and of beautiful form. She is not only good for the dairy, but is just such a cow as would be chosen to produce the most valuable working oxen, and such an one as would be likely to produce a healthy, hardy and useful progeny for any purpose.

Honey.—We have received from Mr. Arza Gilmore, of Wayne, Maine, a sample of honey, of superior quality made the present season in his apiary. He has adopted a plan of keeping bees, which in many respects is novel. His bee-house and his specimens of honey, each received the first premium at our late State Fair. He supports his bees, chiefly, by an artificial compound, prepared by himself. This renders the keeping of bees practicable in all situations. The compound is not expensive, and the honey made from it is pronounced, by all who have seen it, of the very best quality, and in small boxes and jars, readily sells in Boston and other cities at twenty-five cents a pound. Mr. G. states that he has taken this season, from nine hives placed in his house last winter, *twenty-three hundred pounds* of honey.

Profitable Sheep.—In reply to the inquiry of Mr. John Johnston, in our August number, respecting the returns of flocks of sheep, as compared with his own, we have received the following statement from David Hillman & Sons, of East Avon, N. Y. The whole number of their flock was 349, of which 143 were ewes which raised lambs this season; 97 were two-year-old ewes and wethers, 196 yearlings, and 3 rams. Messrs. H. sheared from all, 1,730 lbs. wool, which sold at home for 39 cts. per pound, or in the aggregate, $674.70. The two-year-olds and yearlings, 203 in number, sheared 5¼ lbs. washed wool per head. They were Merinos.

Albany and Rensselaer Horticultural Society.—The annual exhibition of this society was held at Albany, on the 18th and 19th of September. It was the finest display of fruits and flowers ever made by the society. Apples, pears and peaches, were numerous and fine, and there were several very handsome specimens of grapes, both of exotic and native varieties. The show of plums was not large—there being rather a scarcity of that fruit in this vicinity the present season, and it being, besides, rather too late in the season for many of the best kinds. There were many fine peaches, all grown in this neighborhood. The principal exhibitors of fruits were Messrs. Dow, Prentice, Wendell, Wilson, Thorburn & Teller, Aiken, E. H. Pease, E. Corning, Jr., Elisha Dorr, Denniston, and J. S. Goold. The show of flowers was very rich. Norman Briggs, of Schaghticoke, exhibited ninety-five varieties of dahlias, most of them very perfect flowers, forming altogether the most attractive display of this kind we have ever seen. A specimen bloom of the variety "Princess Radzville," shown by James Wilson, was universally admired. There was a large show of roses, verbenas, asters, &c. The collection of roses shown by L. Menand, surpassed any similar display we have seen at this season of the year. The collection of Mr. Wilson was also fine. Very handsome collections of flowers of various kinds, were also shown by Messrs. Dingwall, Quinn, Newcomb, Corning, Goold, and Pease. There was a large show of vegetables, and they were generally of a very excellent description.

A Prize Animal.—The Short-horned bull "Belleville," bred and owned by J. Mason Hopper, Esq., of Stockton-on-Tees, which received the sweepstakes prize of £65, ($325) at the late show of the Highland Agricultural Society, had previously taken the highest prizes in the class of Short-hor[illegible]at all the principal shows in the kingdom, viz, the [illegible]orkshire Society, the Royal Society, the Irish Improvement Society, and the Highland Society. He is seven years old. The whole amount he has received in prizes is £160, or about $800.

Leap of a Horse.—A Pottsville (Pa.) paper states that a mare, on which a boy twelve years old was riding, became frightened and ran away. In her course, she came to where a bridge across a stream had been removed. Here she paused for a moment, as if hesitating to attempt the leap; but gathering her energies, she bounded across the gulph. Several persons immediately measured the distance, and found it to be *twenty-seven feet*. Neither the mare or rider were injured.

Mill-Tolls in Arkansas.—D. H. Bingham advertises in the Little Rock *Gazette and Democrat*, that persons wishing to have corn ground, can have it done at his mill at any time; that there may be no "misunderstanding," he gives notice that "the rates of toll charged, are one-third, or twenty-five cents per bushel."

Will Fish revive after having Frozen?—It has often been said that some kinds of fish would revive after they had been frozen entirely through. A correspondent of the Cleveland *Visitor*, states that a lot of perch were caught in the winter, and thrown on the snow, where they soon froze so solid that in handling them, many had their fins broken off. After remaining frozen several hours, they were put in a tub of water, and on examining them after they had been in the water a while, several of them were found as lively and active as any fish could be. Dr. J. P. Kirtland, in the same paper, states that in 1820, he and several other persons caught eight or ten bushels of eels, in a stream in Connecticut. It was in very cold weather, and the eels had been driven from a mill-pond by drawing off the water. He says:—"The eels were taken home, and during the night were placed in a cold and exposed room, and were literally as stiff and almost as brittle as icicles. The next morning a tub was filled with them, into which was poured a quantity of water drawn from the well, and they were then placed in a warm stove-room for the purpose of thawing. In the course of an hour or two the family were astonished to find them resuscitated and as active as if just taken during summer. The experiment was tried with a number of tubs full during the day and with similar results."

Sagacity and Strength of the Spider.—The intelligence and power evinced by the spider in securing its prey, has often attracted attention; but we have seldom heard of so remarkable a display of these faculties as we witnessed a short time since. A small-sized spider had made his web on the under side of a table. Early one morning, a cockroach was noticed on the floor, directly under the web, and on approaching to take it away, it was found that the spider had thrown a line round one of its legs, and while the observer was looking at it, the spider came down and *lassoed* the opposite leg of the cockroach. The spider then went up to his web, but instantly came down and fastened a line to another leg, and continued for several minutes darting down and fastening lines to different parts of the body of his victim. The struggles of the cockroach, (though a full-grown one,) were unavailing to effect his escape—he could not break his bonds, and his efforts seemed only to entangle him the more. As his struggles became more and more feeble, the spider threw his lines more thickly around him; and when he had become nearly exhausted, the spider proceeded to raise him from the floor. This he did by *raising one end at a time*. He at first raised the head and forward part of the body, nearly half an inch; then raised the other end; and so continued to work, till the cockroach was elevated five or six inches from the floor. Thus, "hung in chains," the victim was left to die. The spider was, as before remarked, a small one, and could not have been more than a *tenth* the weight of his prey.

Seedling Apple.—We received some time since, from Charles P. Cowles, Esq., of Syracuse, some specimens of a seedling apple. They appeared to have been picked rather too green to admit of their quality being fully ascertained, as they were very hard when received, and rotted without becoming *naturally* ripe. We cannot, therefore, judge fairly of its merits. It is a fruit of fair size and form, and handsome appearance.

Wool Market—Sept. 23, 1850.

The market is firm for all grades—though less active for the fine than for medium and low qualities. The demand for the latter being greater than the supply the prices of Foreign have advanced to an unusually high figure. There is no probability that the quantity imported can be materially increased, and certainly not without further advancing the rates. The recent public sales in London, of Foreign and Colonial wools, show an advance of one penny (2 cts.) per pound, with a very active market. This state of things in both the United States and England, gives the assurance that before the close of the season, the Saxony clips of the U. S. will be wanted at fair prices. We quote,

Saxony Fleece,	44a50c.
Full blood Merino,	40a42c.
½ to ¾ do.	36a38c.
Native to ¼ do.	33a36c.

Prices of Agricultural Products.

[*Review of the Market for the last month.*]

Albany, Sept. 20, 1850.

Our market since our last report has been active, though not more so than is general at this season of the year. A good business has been done in the leading articles of produce.

FLOUR.—The early part of the month called forth but a light supply of flour, the demand being confined mainly to the usual city and eastern trade. Within the last week, however, a more active inquiry has sprung up, chiefly from the east, whence buyers have come forward freely and purchases to a fair extent have been made, chiefly stimulated by reports of the extension of the potato rot in the eastern states. Quotations during the month have fallen off, upon the increasing receipts by canal; at present they are firm, with a tendency on the low grades to advance, while a contrary course is anticipated with the high grades. The sales add up 40.000 brls, at $4*a*$4,25 for common State, $4,25*a*$4,37½ for old Western, which is scarce, $4,50*a* $4,62½ for fresh ground State, $4,62½*a*$4,75 for new Western, $4,87½*a*$5 for pure Genesee, $5 for fancy Western, $5,12½*a*$5,37½ for fancy Genesee, and $5,50*a*$6,50 for extra do. Buckwheat is beginning to arrive and sells at $2 per cwt.

GRAIN.—The market for grain, especially for Wheat and Barley, has been very active. In Wheat the transactions have reached 108,000 bush., 98,000 of which have been of prime white Genesee, the balance Ohio and Mediterranean; the sales of Wheat for this market are unprecedented in amount; the market closed with our last report at 116*a*117 for prime samples of Genesee, and after falling to 107c, on the 31st ult., has recovered nearly all it had lost, and is firm at 115*a*115½c for good samples; the other descriptions sold at 95*a*100c for Mediterranean, 95*a*97c for Ohio, and 87½c for a lot of red Ohio. In canal Rye we have no sales to note; in the street 75c is paid. In Corn there is less doing, and the transactions are confined entirely to Western mixed; during a portion of the month the market has been neglected, but within a few days a more active demand has sprung up, caused in part by the condition of the potato crop, and our highest figure in the last report is fully maintained, with a tendency to a further advance; the sales are 90,000 bush., at prices varying from 59 to 63, closing firm at the higher figure. Oats have been dull of sale until within a few days, when a light stock in New York stimulating prices, we have a more active market, with purchases for future delivery; the sales are 66,000 bush., at a range of 39 to 41½c, with sales at 41½ on the spot, and 40*a*41 for lots to arrive within a few days, and for delivery before the 10th of October. The opening of the Barley season has been more than usually brisk; the light stock of malt in the hands of brewers has caused a ready sale and active demand for all lots of prime barley offering, and holders have met the demand promptly, the receipts by canal being in advance of those of the corresponding period last year, about 300,000 bush. The bulk of the barley coming forward is discolored, and purchases of these descriptions are made at a low figure, or are entirely neglected. There are various opinions afloat as to the extent of the present barley crop, and as a consequence as to the price the article will command before the close of the canal; holders, almost without exception, represent the crop much short of last year; some as high as 400,000 bush., and of course look for high figures all this season; buyers, on the other hand, hold off and buy only as their necessities require, or as the article may suit. All agree that the crop is inferior to that of last year, and that it is not so large. Our sales reported are to the extent of 220,000 bush., of which 136,000 is two-rowed, at quotations ranging from 70 to 80 for both descriptions; the market for ordinary to good two-rowed may be quoted at 70*a*72c, and for four-rowed at 75*a*77c; last sales were made at 71½ for two-rowed, and 75½*a*77c for four-rowed, the higher figure for a very bright sample; in the street 72*a*75c.

FEED.—The sales are about 90,000 bush., at 9*a*10 for bran, 11*a*14c for shorts, 15*a*18c for second quality, and 60*a*100c for middlings.

WHISKEY.—The demand has been good and always in excess of the supply; the sales are 1300 brls. closing firm at 27½ for S. P.

SALT.—Sales to a fair extent at 10*a*10½ for bags, and 100c for brls.

HOPS.—Some samples of the new crop have been received and show well; the condition of the English crop, upon which £200.000 duty is backed, forbids high prices here. Sales of the crop of 1849 at 15c.

SEED.—Flax seed arrives sparingly and sells at 125c. Timothy is firm and in demand at $3,37½.

BROOM CORN.—Sales of Ohio have been made at 8½c.

PROVISIONS.—No demand beyond the retail trade. No change in figures.

Fruit Trees.

THE subscriber offers for sale this fall a good assortment of Apple, Cherry, Apricot, Peach, Plum, (medium size Pear) and Nectarine Trees. Among which are 30,000 fine Apple Trees from 3 to 4 years old and from 7 to 11 feet high; 2.000 to 5.000 each of Baldwin, Newtown Pippin, Rhode Island Greening, Bellflower, &c.

6,000 Cherry Trees, of 40 of the most choice varieties, many of which are of extra size.

4,000 Early Golden Apricot trees of all sizes and shapes.

10,000 Isabella and Catawba Grape vines from 2 to 4 years old.

2,000 Orange Quince bushes (fine).

1,000 Fir Trees from 1½ to four feet high.

The above will be sold as low and on as favorable terms as at any other nursery in this neighborhood. Price catalogues sent to all applications.

CHARLES DUBOIS.

Oct. 1, 1850—1t.

Fishkill Landing, N. Y.

The Nursery is two miles south of Fishkill ferry.

Nursery.

THE subscriber offers for sale 5,000 Apple Trees, from 6 to 9 feet high, comprising 100 of the best varieties cultivated, at 17 cents each. 3,000 Peach Trees, from 6 to 9 feet, comprising 50 of the best varieties, at $12.50 per hundred, 17 cts. per single tree. A few Cherry, Pear and Plum trees; various kinds of Ornamental trees, from 25 to 33 cents. 1,500 Arbor Vitæs, from 3 to 5 feet, suitable for hedges, $12.50 per hundred.

The Nursery is situated within 2 miles of Daysville depot, on the Norwich and Worcester Railroad. Trees will be carefully packed and delivered at the above place free of charge, when orders exceed $5. Persons from abroad ordering trees are assured that their orders will be faithfully executed.

SIMON L. COTTON.

Pomfret Landing, Conn., Oct. 1, 1850—1t*.

Samuel Moulson,

At the Old Rochester Nursery, North Clinton-street, Rochester, N. Y.
Office 36 Front-street,

BEGS to offer the usual assortment of fruit and ornamental trees, shrubs, bulbs and herbaceous plants, among which are—

100,000 of the celebrated Northern Spy Apple tree, root grafted, and sufficiently deeply planted to insure roots *from the scions*. This tree is remarkably thrifty. Those I offer are fine grown, guarantied true to name, or the *puchase money refunded*.

6 to 8 feet, 37½ cents each. 5 to 6 feet, 31¼ cents. 4 feet, 25 cents.

40,000 various select sorts of Apple. 30.000 Pear, Peach, Cherry, Apricot, Nectarines, Plums, &c. 5,000 fine 4 year Norway Spruce, grown from seeds once transplanted. Orders solicited, and trees properly packed for any part of the United States or Canada. Catalogues to be had gratis.

OFFERED TO THE TRADE,

100.000 one year Pear seedlings; 50.000 two year Apple seedlings; 10,000 one year Cherry seedlings; 50,000 one year Norway Spruce, with many other items, a trade list of which will be furnished early in autumn.

Oct. 1—1t.

Highland Nurseries, Newburgh, N. Y.

(*Late A. J. Downing & Co.*)

THE proprietors of this establishment offer for sale, this autumn, the largest stock of Fruit and Ornamental Trees, which they have ever before had the pleasure of offering to their patrons, and the public in general.

They would particularly call the attention of *dealers* and *planters on a large scale*, to the superior quality of the stock, who will be dealt with on the best and most liberal terms.

Their stock of Pear trees is very large, over twenty thousand, and *extra* in quality, and comprises all the leading standard varieties, as well as all the recent acquisitions of merit.

Particular attention paid to the cultivation of the Pear on Quince, Cherry on Mahaleb and Apple on Paradise Stocks for pyramids and dwarfs for garden culture; and of which there is a choice assortment of the kinds most suited for those purposes.

Apple trees, of large size, in every variety; also Plum, Cherry, Peach, Nectarine, Apricot and Quince trees, of every known variety worthy of cultivation.

Together with a full assortment of Grape Vines, native and foreign, Raspberries, Gooseberries, Currants, Strawberries, and esculent roots, such as Asparagus, Rhubarb, Sea Kale, &c., of the most approved kinds.

Hedge Plants—In large quantities of American Arbor Vitæ, Osage Orange. Buckthorn, Three-thorned Acacia, &c.

Also Ornamental Trees and Shrubs, (evergreen and deciduous,) of large size, and in large quantities, at reduced rates.

For further particulars they would refer to a new, improved, and greatly enlarged edition of their Catalogue, just published, and ready for distribution (gratis) to all post-paid applicants.

Oct. 1st, 1850. A. SAUL & CO.

A New Hardy Climber.

THE new and beautiful Climber, Calestigia pubescens, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter, without the least protection. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental planted in patches like the verbenas; makes an admirable screen, and is very effective in young plantations, belts, or shrubberies, trailing prettily on the surface, and running up among the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting cemeteries and public gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start it under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order, by mail or express, October 20th. tubers sufficient for 100 plants, at $5.00; 50 plants, $3 00; with directions for propagation and culture.

Strong plants in pots, in April, $1 per pair. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct., 1, 1850—tf

BONE MILL.—For sale, one Bone Mill, for horse power, complete, capable of grinding from 150 to 200 bushels per day. Also, a Steam-Power Mill, capable of grinding from 800 to 1.200 bushels per day. Engine of 16-Horse Power, with two boilers, of 25-Horse Power, all complete. Apply by letter, or otherwise, to

ALEXANDER HORNBY,
26th st., 9th Avenue, New-York.

N. B.—The Horse Power will be sold very *cheap*.

Oct. 1—1t.*

Prince's

Linnean Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & Co., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears, 50,000 trees can be supplied, of which 15,000 are of bearing age on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be elsewhere obtained. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

A wholesale Catalogue will be sent to all venders.

The transportation expense to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the possibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. Oct. 1, 1850—1t.

For Sale, a Beautiful Farm,

SITUATED ½ a mile from Greenfield Hill, in the town and county of Fairfield, Conn., 4 miles from Long Island Sound, and 3½ miles from the depot of the N. York & N. Haven Railroad, either at Fairfield or Southport, containing about 100 acres, 70 of which are arable and meadow land, under good state of cultivation, and 30 acres of woodland. The buildings consist of a good 2 story dwelling house, large barn, grainery, and other outbuildings, all in good condition. It is well stocked with fruit trees—is well fenced, and a beautiful stream of water passes 4 rods in the rear of the house. For information as to price, terms of payment, and such further description as may be desired, apply personally, or by letter directed to HENRY SMITH, Greenfield Hill P. O., or (personally) to

WM. BANTA,
Oct. 1—1t*. 106 Canal st., N. Y.

Blatchly's Plows.

WE are now manufacturing and offer to the farming public these celebrated plows. We claim for these plows, that they are of light draft, laying the furrow more closely, covering vegetable matter completely, and from their height of beam, admirably adapted to plowing in clover. From the peculiar shape of the point, work admirably in hard gravelly and stony soils. Any person giving one a fair trial, and dissatisfied with its working, is at liberty to return it, and the money will be cheerfully refunded. One of them was exhibited at the State Fair, and will be remembered by many readers of the Cultivator.

Prices, delivered on Erie Railroad at Great Bend:

No. O, 1 horse or corn plow,	$3 50
No. L, 2 “ “	5 00
“ 2 or 3 horse “	5 50

Montrose, Pa., Sept. 15, 1850—1t.* JOSEPH FULLER & Co.

Unrivaled Improvement in Water Wheels for Mill-Owners.

RECENT improvements in the French Turbine and Scotch Mortar Water Wheels, exceeding all others, even the most perfect Overshot Wheel, by a great percentage, has been patented by Mr. Henry Van Dewater. It has been fully tested, and found *far* in advance of all other wheels, both in power and economy, or quantity of water required. Its superiority is established in the following points: 1st. It gives greater percentage of the water. 2d. Is not affected by back-water. 3d. Is not obstructed by ice. 4th. Wastes no water. 5th. Is more durable. 6th. Requires less room. 7th. It is less variable in its motion when performing more or less labor, with the same supply of water.

The quantity of water required under different heads and falls, for six and a half horse power, say from 5 feet to 28 feet fall, first
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
5-114, 6-88, 7-68, 8-57, 9-48, 10-44, 11-38, 12-31, 13-31, 14-29, 15-26,
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
16-25, 17-23, 18-21, 19-20, 20-19, 21-18, 22-17, 23-16, 24 15, 25-14,
ft in ft in ft in
26-11, 27-10, 28-9. All who may wish to improve their mills or factories, by the use of the above wheels, and will send us a statement of head and fall of water, and the amount of horse power required to drive the machinery they use, will receive immediate attention.

☞ This wheel is capable of driving, according to the quantity water, and as the head and fall may be in height, from 6 horse-power to 250 horse-power.

Mr. Jagger, is a practical and experienced mill-wright, and considers this the best Water Wheel that has ever been offered to the public.

We have a large assortment of Machinery patterns, that have been collecting more than fifty years, and are ready at all times to furnish Castings, fitted or not, at short notice and on fair terms.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works,
Oct. 1—6t. No. 110 Beaver street, Albany, N. Y.

White Dorkings.

THE subscriber has on hand a few choice White Dorking fowls which he will sell at fair prices—bred by himself. As far as his knowledge goes, this variety of the Dorkings is more sought after, both in England and in this country, on account of their color. Price, $5 per pair. L. DURAND.

Derby, Ct., Oct. 1, 1850—2t.*

Pear Seedlings.

THE undersigned offers for sale, 100,000 pear seedlings, from $8.00 to $20.00 per 1,000, and a great variety of dwarf and free stocks for nurseries at low prices—fruit and ornamental; also

Deodar Cedars, 1 to 3 ft., $1 to $3; Araucaria imbricata, $1; Cedar of Lebanon, $1; Thuya filiformis, $1.50; Lonicera Ledebourii, 50 cents; Spiræa Reevsii, 50 cents; ——— prunifolia fl. pleno, 50 cents; Japan Pear, double crimson, 50 cts; Ribes albidum, 50 cts; Spiræa Lindleyana, 50 cents. New Lilacs, fine Double Hawthorns, and a full assortment of ornamental plants, of which a priced list will be sent, post paid, to order.

APPLES—A few hundred extra Dwarf Pyramidal Apples, of the best sorts, in a bearing state.

RHUBARB—Ten thousand Willmott's Early, and Myatt's Victoria Rhubarb.

IVES' WASHINGTON SEEDLING PLUM—(Originated by J. M. Ives, Esq., of Salem, Mass.,) is pronounced by the best judges equal to any American Plum yet produced. It is of great size and beauty, and of delicious flavor. $2.00

Local Fruits.—The Watson Pear, an excellent early pear, (August 20,) handsome, and of good size, of a peculiar and delicious flavor; an old favorite here, where it has fruited above sixty years. The Horseblock or Manonet, Sassafras or Spur Sweet, Holnes and Hightop Apples, are all excellent fruit, descriptions of which may be found in the leading Horticultural Magazines for the years 1849-50. One of each of the above, $2.00. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct. 1, 1850—tf.

Emery & Co.'s

New-York State Agricultural Society's first premium Railroad Horse Power and Thresher, (with the latest and important improvements, for which patent is secured.)

THESE HORSE POWERS were exhibited in operation at the September Fair of the N. Y. S A. Society, at Albany, in Competition with Wheeler's, (still made and sold by us,) Allen's, and several others, including all of any note now before the public on the endless chain principle, where all were thoroughly examined, as the able report of the committee will testify, when they unanimously agreed to award E. & Co.. the first premium for superior mechanical CONSTRUCTION, DURABILITY, STRENGTH and POWER, (without regard to any former premiums which have heretofore been awarded to some of those in competition.)

The demand for the above machines exceeds our most sanguine anticipations. Its superiority over any we have heretofore sold is demonstrated every day by those using them, and the unprecedented demand for the same—and lastly, by the full and able report of the Committee on Farming Machinery at our late State Society's Fair.

The Farming Public are assured that no expense will be spared to make our machines satisfactory in every respect. For further particulars, terms, prices, warranty, description, &c., see Catalogue, furnished gratis on application, by mail or otherwise, to

EMERY & Co.

Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371, Broadway, Albany, N. Y. Oct. 1, 1850.

Card.

WHEREAS Messrs. Wheeler, Melick & Co. have recently removed to this city, and formed a co-partnership for the purpose of manufacturing Horse Powers and Threshers, and leased of the subscriber a portion of his extensive manufactory for said purpose, and occupied the same, have of late pursued a course of advertising by styling themselves the proprietors of the "ALBANY AGRICULTURAL WORKS," and "*manufacturers and dealers of Agricultural Implements generally*," and otherwise, so as to have left the impression upon the public mind that they have either become the proprietors or manufacturers in connection with our establishment, or have succeeded us in the name and business of the same, greatly to our injury. This notice is, therefore, to inform our patrons and the public, that our interests *are* and *ever* have been *distinct* and *separate.*—and further, that their advertisements, bills, cards, &c., with our own, were laid before the Grand Jury of this county, by whom they were indicted; since which an injunction has been granted restraining them from the further use of the name or other means by which they shall appear in any way connected with, or the proprietors of the said establishment. HORACE L. EMERY.

Oct. 1, 1850.

Chinese Chrysanthemums, &c.

J. M. Thorburn & Co., 15 John street, N. Y., and Astoria, (L. I.)

HAVE now ready for delivery, strong layered plants in pots, (which send up numerous suckers after flowering in October,) of above sixty varieties of this fine autumnal exotic, whose varied and showy flowers lengthen out the season, enlivening the conservatory when all summer flowers have passed away. The present collection is made up from the best in France and England—price $4 per dozen, (packing included.) A second collection of good, but older sorts, $3 per dozen. The following are some of the best varieties, and free bloomers. Annie Salter, Bonaparte, Brinda, Boisgerard, Brez, Bianca, Calabasse, Celestial, Charlemagne, Daphne, Emilia, Teisseire, Flechier, Grand Mogul, Gen. Mercier, Grande Napoleon, Isabella, L'Elegante, Matricarioides, Malvina, Minerva, Reine Victoria, Snowflake, Saladin, Tempel de Salomon, Wm. Penn, Violet Triumphant, &c.

Also—A select collection of FUCHSIAS, in bloom, (can be safely packed.) Among the most desirable is Acantha, Beauty of Salisbury, Conqueror, Coralinna, Delicate Gaylad, Goliath, Hero, Lady of the Lake, Napoleon, One in the Ring, Serratifolia, Snowdrop—50 cents each—mostly light colored, and all free bloomers.

Also—Several varieties of ACHIMENES, now coming into flower. This is a splendid genus, and blooms all the autumn. TORENNIA ASIATICA, with showy China blue flowers, and graceful trailing habit; a very desirable plant, blooming nine months of the year. BEGONIA FUCHIOIDES, with pretty cherry colored pendant flowers, blooming in warmth all winter. CYCLAMENS, of sorts. OXALIS SPECIOSA, with bright pink flowers till December. TROPŒLUM LOBBIANUM, with brilliant, orange scarlet flowers all winter. MANETTIA BICOLOR, a runner with a profusion of pretty yellow and scarlet flowers, most of the winter. SALVIA OPPOSITIFOLIA, a new and pretty variety, with showy flowers. GESNERIA OVATA, GEROLDIANA and ZEBRINA, with rich velvety foliage, and showy scarlet flowers; very desirable plants. PLUMBAGO LARPENTÆ, bright azure blue flowers. All the above plants 50 cents each, and worthy a place in the smallest collection of choice plants. ROBINSON'S DEFIANCE VERBENA, the best variety in cultivation—immense bloomer, good habit, and intense scarlet color; strong spring raised plants, in small pots, which will flower all the fall and winter. 25 cents each. $2 per dozen.

Also—The following GRAPE VINES in pots—two years old, raised from eyes; the plants are strong, straight, and well formed. $1 each. Black Hamburgh, Black Palestine, Black Frontignac, Black Constantia, Black Tripoli, Early Musk Chasselas, Grissly Frontignac, Niccirine Chaselas, Muscat of Alexandria, White Lisbon, White Muscadine, Victoria, Violet Chasselas, Flame Tokay, &c, These are all approved sorts, the wood well ripened.

Also a good collection of STRAWBERRIES, now in season for furnishing plantations. Burr's New Pine, Columbus Pine, Rival Hudson, Black Prince, Myatt's Eliza, Princess Alice Maud—$2 per hundred. Hovey's Seedling, (superior variety,) Boston Pine, Early Scarlet, Scotch Pine-apple, Iowa, (fine and great bearer,) English Whitewood, Jennison's Seedling—$1,50 per hundred.

☞ Catalogue of Dahlias, Roses, Geraniums, Fuchsias, Cinerarias, &c., for 1850, *gratis*.

DUTCH BULBOUS ROOTS.

Just received from Holland, a splendid collection of Hyacinths, Tulips, Polyanthus Narcissus, Crocus, &c., mostly of the early sorts for blooming in house, in glasses or in pots, during winter, are now ready for delivery. Oct. 1—1t.

Fitzgerald's Patent Portable Mill.

[From the British American Agriculturist, October, 1849.]

REPORT OF THE COLONIAL FAIR FOR 1849.

"A PORTABLE GRIST MILL, known in the States as Fitzgerald's Patent Portable Mill, was exhibited by Mr. Charles Ross, of Rochester, N. Y. The mill, without the bolting apparatus, costs $100, and is capable of grinding five bushels of wheat in one hour. The proprietor had several medals awarded by the American Institute New-York city. He showed some flour ground by this mill, which took the promium at Syracuse; it was certainly of a fine quality. For new settlements, this invention will supply a desideratum. Mr. Ross, indeed, asserts that when its merits become known, every farmer will be his own miller. He says it is about being put up in a flouring establishment at Rochester, in place of the common flat Burr stones; after which, if it proves its superiority, we have no doubt it will come into general use."

Mr. C. Ross— *Rochester*, *May 25th*, 1850.

Dear Sir,—The wheat that I purchased and ground when you was here, through that new mill, has astonished me. I got a yield out of 4 bushels 15 lbs. and 4 oz. The wheat, you know, was ordinary, and far from being the best quality. More than this, I did not grind over the middlings, they were so poor that it would not pay to do so.

The flour was of a superior quality, I mean far above the best standard extra brand in Boston, as I have a sample of it in my office. It has been compared with mine by a number of the best judges of flour in the city, and pronounced in every instance to be decidedly better than the Boston standard for extra—and those that have used it, say it is the best flour they have ever had in Rochester—*but one brand*, *all extra*. This is saying a good deal in this city, where flouring has been carried on so extensively, and brought, as all supposed, to perfection. I am of the opinion, that with these mills I can make from one-third to double the amount of flour with the same power that I ever could with four and a half feet flat stone. Respectfully yours, JOSEPH PEIRCE, Corner Main & Water sts."

Mills of various sizes, from $60 to $400, complete with attachment, manufactured by CHARLES ROSS,

Curtis' Building, Main st., Rochester, N. Y.

John Mayher & Co., 197 Water st., agents for New-York city.

Oct. 1, 1850. 1t.

Syracuse Nurseries.

Thorp, Smith & Hanchett, Proprietors, Syracuse, N. Y.

THESE Nurseries are now most abundantly stocked with the various kinds of fruit trees suitable to this climate, to which the proprietors feel much satisfaction in calling the attention of cultivators and dealers. The peculiarly favorable season hath given to their trees a vigor of body, a hale outstretching of the limbs, and a beauty of form, which do render it a grateful entertainment for the eyes to dwell upon them. Trees, superior in those particulars, have rarely been offered to purchasers.

Their nurseries embrace all of the most approved varieties, old or new, of the various kinds of

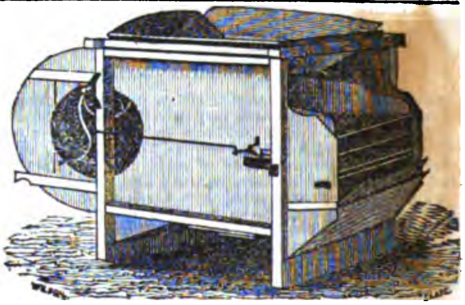
FRUIT TREES—From which customers can be supplied in quantities of from 10, to 10,000, as excellent in quality, and as reasonable in terms, as can be found at any other like establishment.

ORNAMENTAL TREES—Splendid in size and form, of the *Horse Chestnut*, *Mountain Ash*, *Balsam Fir*, *Ailanthus*, and various others, may be had, largely or otherwise.

BUCKTHORN FOR HEDGES—One and two years old, very stout; Snowballs, Michigan Roses, Grape roots, Quince Trees, Currants, Gooseberries, &c., &c.; all, or any of which, will be parted with at most reasonable prices.

Catalogues, as usual, supplied to *post-paying* applicants.

Syracuse, 1st Oct., 1850—2t.

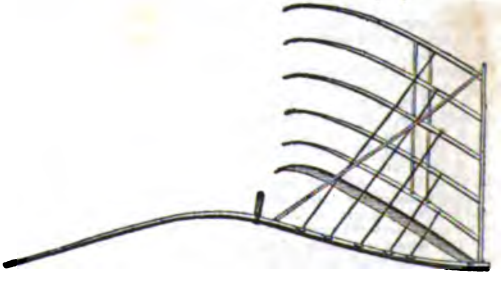


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES*. We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.

Junction P. O., Rens. Co., 8 miles north of Troy

May 1, 1850—tf.

Greenhouse Plants, Vines and Roses.

PARSONS & CO. offer for sale every desirable variety of Greenhouse Plants, and many valuable novelties recently introduced from Europe.

Growers of Grapes are invited to examine their vineries, now in full fruit, from which they can furnish good vines, of about forty varieties, at

50 cents for those one year old,
75 " " two "
100 " " of extra size.

Their stock of saleable Roses includes some thousand on their own roots, of the Remontants, Bourbon, China, and Garden Roses, in their various sub-classes.

Catalogues furnished on application by mail to Flushing, near New York. Sept. 1—2t.

Fruit and Ornamental Trees, &c.

THE subscriber cultivates at his Nurseries, and has for sale at his residence, *Eustis-street*, Roxbury, Mass., all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees, Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, etc., etc., etc.

Also several thousand Pear Trees on the Quince—one, two, three, four and five years from the bud.

Particular attention paid to the cultivation of the Pear.

Persons wishing extra sized trees, *or trees on Quince stock in a bearing state*, will please call at the Nurseries and make their own selection.

30,000 Buckthorn Plants.

ORNAMENTAL TREES, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

The whole for sale at the lowest market price. Catalogues gratis to post-paid applicants. SAMUEL WALKER,
Roxbury, Sept. 1—3t. *Roxbury, Mass.*

Apple Trees for Orchards.

MANY thousand fine Trees, mostly 7 to 8 feet high, *propagated in all cases from thoroughly proved or bearing trees*, for sale at the nursery of J. J. THOMAS, Macedon, Wayne Co., N. Y.

They embrace the best standard varieties, with nearly all the valuable new sorts; among them are Early Harvest, Sine Qua Non, Sweet Bough, Early Joe, Summer Sweet Paradise, Autumn Strawberry, Gravenstein, Dutch Mignonne, Rambo, Fall Pippin, Yellow Bellflower, Rhode Island Greening, Esopus Spitzenburgh, Northern Spy, Swaar, &c., &c.

Price, varying with selections, from *sixteen* to *eighteen* dollars per hundred—a first rate selection of summer, autumn, and winter fruit, of fifteen to thirty varieties, if made by the proprietor, furnished at *sixteen dollars* per hundred, or *seventeen* if well packed in matted bundles, and delivered at canal or railway. All orders to be accompanied with remittances. Sept. 1—3t.

Commercial Garden and Nursery of

PARSONS & CO.,

Flushing, near New-York.

THE proprietors of this establishment offer for sale their usual assortment of Fruit and Ornamental Trees, Shrubs, Vines, Roses, &c.

Their stock of Apples and Pears is finer than they have before offered. Also Pears on Quince, of their own growing.

The Ornamental department contains the usual well known varieties, and all the best new Trees and Shurbs, for lawns and arboretums, including the new Pines, Araucaria Imbricata, Cryptomeria Japonica, with Cedar of Lebanon, at one to two dollars each; and Cedrus Deodara, of various sizes, at one dollar per foot.

Catalogues furnished gratis on application by mail. Sept. 1—2t.

Fruit and Ornamental Trees,

at the Nursery of J. J. THOMAS, *Macedon, N. Y.*

MOST of the Trees are of large, handsome, and thrifty growth, and they embrace careful selections of the best sorts of Apples, Peaches, Pears, Cherries, Apricots, &c., with the smaller fruits.

When purchasers desire, selections will be made by the proprietor, so as to afford a regular succession of the best varieties throughout the season; and all may be relied on as strictly true to their names, *the proprietor having for the past fifteen years invariably adhered to the rule of selling none but* THOROUGHLY PROVED *sorts.*

A carefully assorted collection of hardy Ornamental Trees, Shrubs, and Herbaceous Perennial Plants, furnished at moderate prices.

Trees for canal and railroad well packed in bundles, enclosed in strong mats, with roots mudded and encased in wet moss, so as to preclude all danger of injury.

All communications, *post-paid*, to be directed Macedon, Wayne Co., N. Y. Sept. 1—3t.

Albany Burr Mill Stone Factory.

ADAM R. SMITH, (late of Troy,) having located at the Corner of Broadway and Quackenbush streets, (three blocks above the Delavan House,) ALBANY, N. Y., invites the attention of Millwrights and others to the stock on hand, which, with his facilities for manufacturing, must render it advantageous for them to call upon him before purchasing elsewhere.

He keeps also, a large supply of Bolting Cloth, Screen Wire, Plaster of Paris, and other articles used in Milling, which will be disposed of on liberal terms.

August 1—3t.*

Agricultural and Horticultural Implements, and *Field and Garden Seeds.*

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Plantor and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,
August 1, 1850.—tf. 189 & 191 Water St., New-York.

To Nurserymen, Dealers, and others.

THE subscriber offers for sale at the *American Botanic Garden and Nursery*, Waterloo, Seneca Co., N. Y., (4½ miles northwest of Waterloo, on the Vienna road):—

20,000 American Balsam Fir.

10,000 Spruce, Red, White, &c.

Also various other Native and Foreign Trees, Shrubs and Herbaceous Plants, together with a choice selection of Fruit Trees.

Native Trees and Plants to order.

Orders promptly executed, and Trees and Plants packed for safe transportation to any part of the United States, Canada and Europe.
Sept. 1—2t. W. S. DELL.

South Down Sheep.

THE subscriber offers for sale, this season, several pure bred South Down Rams, varying in age from lambs to 4 years old. Also several Ewes, from one year to four years old.

The Lambs and Yearlings of this flock, are from an imported Ram from the Duke of Richmond's celebrated flock.

Applications for the above Sheep may be addressed to the subscriber in this city. JNO. McD. McINTYRE.
Albany, August 12, 1850—3t.

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise. Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*
Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.
July 1, 1850—tf. A. S. BABCOCK.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.
May 1, 1850—tf. JOHN MAYHER & CO.,

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G. EMERSON, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

"We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed in premiums by Agricultural Societies. How much better, and in better taste, than the amount of its cost in money."—*J. S. Skinner.*

Sold by L. TUCKER, Albany; A. HART, Philadelphia; DERBY & Co., Buffalo; W. D. TICKNOR & Co., Boston; and the principal booksellers in the Union. Price $4. (Cost of the imported work in 1 vol. *without any plates*, $14.) July 1—tf.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

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Choice Fruit Trees.

Rochester Commercial Nursery. ***Established*** 1830.

THE subscribers offer for sale, this autumn and the coming, one of the largest stocks of fruit trees in this state; carefully propagated and grown by ourselves, and warranted correctly named.

It has been our constant aim to cultivate none but the good varieties, leaving to others the long list of useless trash.

We sell very much at wholesale, and have furnished as many as 5,000 Apple trees for a single orchard, and 3,000 dwarf Pears.

Persons wishing to purchase in large or small quantities, will find it to their interest to communicate with us.

BISSELL & HOOKER,
Rochester N. Y.
Oct. 1—2t.

Ayrshire Bull for Sale.

THE two year-old Ayrshire bull, "Governor 3d," out of "Lady Rose," by "Governor 2d," both prize animals in Scotland, selected for and imported by R. S. Griswold, of Hartford, Conn, in 1846. The Bull may be seen at the farm of Mr. PRENTICE, Mount Hope, near Albany. Price $100. Oct. 1, 1850.

Postponed Sale of full bred Short-horns and improved Dairy Stock.

OWING to affliction in my family, I have postponed the annual sale which was to take place in October, 1850, until the 28th day of June, 1851.

I also decline selling any stock by private sale, so as to offer the public, at auction, all the animals I have to part with, without having any previously selected from the herd, and all animals offered will be sold without reserve.

My new importations of Short-horns, Devons, South Down Sheep and Hogs, will arrive during the fall.

Timely Catalogues, with full descriptions of each animal, will be published in the principal Agricultural journals.

Mount Fordham, Oct. 1st, 1850. L. G. MORRIS.

Great Sale of Imported Stock,

At Westminster, Vt., on the 9th day of Oct., 1850.

THE Administrators of the estate of the late William Stickney, of Boston, will sell at public auction, on Wednesday, Oct., 9th at his farm, in Westminster, Vt., the live stock on said farm, being all imported animals, with their descendants. Among which are the following, viz:

SIXTY-THREE DEVON CATTLE.

1. Sixty head of superior Devon Steers and Heifers, from one to three years old. Many of the Steers are well mated and well broken.
2. One imported Devon Bull, two years old, lately imported.
3. One fine Devon Bull, seven years old, bred by Geo. Patterson, Esq of Maryland.
4. One yearling Devon Bull, bred on the farm.

SIXTY SUFFOLK, MIDDLESEX, AND ESSEX SWINE.

1. Five imported Boars, of these breeds, 1 to 3 years old. Splendid animals.
2. Six or eight imported Sows. These are, or will be with Pigs.
3. About fifty Swine of these fine breeds unaltered.

THIRTY SOUTH DOWN SHEEP.

1. One lot South Downs imported.
2. " " purchased of the Hon. Daniel Webster.
3. " " " " Col. J. M. Sherwood.
4. " " bred on the farm

All the animals here offered, were purchased in England, or of the best breeders in this country, without regard to cost, and with great judgment; or were bred with much care on the farm.

Any further information will be cheerfully furnished, on application in person, or by letter, to WILLIAM S. KING, Woodland Farm, Manton, R. I., or to ISAAC STICKNEY, Administrator. Boston, Mass. Oct. 1—1t.

King Seedling Pear.

THE subscriber offers for sale, at his nursery, several hundred of the King Seedling Pear trees, from 1 to 2 years old, at one dollar each; one dollar a dozen for grafts. A dozen grafts can be sent in a letter in the winter to any part of the States, with safety. Orders directed to

S. WORDEN,
Minetto, Oswego co., N. Y.
Oct. 1—1t*.

Macedon Nursery.

THOMAS WRIGHT, (late Wm. R. Smith,) offers for sale this fall 20,000 Apple trees, 6 to 8 feet in height, 3 to 4 years from graft, with fine heads, by the hundred or thousand, all choice kinds; also, Cherry, Pear, Peach, Plum, and Ornamental trees, Roses, Vines, Shrubs, Pæonias, &c., &c. Apple $16 per hundred, 18¾ cents each; Cherry $25 per hundred, 31¼ cents each; Pear 50 cents, Plum 50 cents, Peach $12 per hundred—also, 60,000 Cherry Seedlings of superior growth, $7 per thousand.

Catalogues supplied gratis to post paid applicants. Immediate attention will be given to all orders accompanied by cash or satisfactory reference. Macedon, Wayne co., N. Y., 10 mo. 1st, 1850.—1t.

Fruit and Ornamental Trees.

THE subscribers would beg leave to give notice to dealers and others purchasing Pear trees, that their stock is remarkably well grown this season, and will be very strong and fine for the fall sales, and is as extensive a collection of saleable trees as can be found at any other nursery in the county. The collection grown on quince stock is also very fine.

The stock of Apple trees will also be very large this fall, in lots to suit purchasers.

PLUMS—A general assortment of most of the leading kinds.

CHERRIES, APRICOTS, PEACHES, GRAPE VINES, GOOSEBERRIES, CURRANTS, with other small Fruits, at the lowest market prices.

ORNAMENTAL TREES, being also grown extensively, can be furnished by the hundred at very reasonable rates—European Linden, Mountain Ash, Scotch Elms, English Elms, Horse Chestnuts, with a good collection of ROSES, &c. Catalogues will be forwarded to all applicants.

WILSON, THORBURN & TELLER,
Nurserymen, 492 Broadway, Albany.
Oct. 1, 1850—2t

Selling off to Close the Business.

Linnæan Botanic Garden and Nursery, late of Wm. Prince, deceased, Flushing, L. I, near New-York. WINTER & Co., proprietors.

THE proprietors have still remaining a very considerable stock and variety of FRUIT and ORNAMENTAL TREES, Shrubs, Vines, Plants, Roses, &c., which they will dispose of *for cash*, at a REDUCTION OF 25 TO 50 PER CENT. AND UPWARDS from the usual prices according to kind and quantity. DESCRIPTIVE CATALOGUES *gratis*, on application *post paid*.

Apple trees. 2 to 4 years old, $6 to $10 per 100.
Pear trees, 2 to 4 years old, $25 to $50 per 100.
Cherry trees. 2 years old, $12.50 per 100.
Orange Quinces, 3½ to 5 feet, $12.50 per 100.
Black Hamburgh and other foreign Grape Vines, extra strong plants, $5 per doz.
Two-year-old Seedling Plum Stocks, $7 per 1,000.
Oct. 1, 1850—1t.

Plum Stocks Wanted.

SEVERAL THOUSAND PLUM STOCKS, suitable for budding next year, wanted immediately. Apply to

ELISHA DORR, Albany.
Oct. 1—1t.

Bloodgood Nursery,

Flushing, L. I., near New York.

THE proprietors of this well established Nursery, offer for sale every variety of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Grape Vines, Hedge Plants, Raspberries, Strawberries, &c.

Our Fruit trees are of *superior quality* and *large growth*, and we are able to furnish them in any quantity, of almost any variety, which is a great inducement to purchasers.

Orders sent to us, at Flushing, or 244 Pearl street, New York, (where Catalogues may be obtained gratis,) will receive immediate attention, and the trees packed with great care for transportation.

Oct. 1st—1t. KING & RIPLEY.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, NOVEMBER, 1850. VOL. VII.—No. 11.

Agriculture—Its Labors, its Profits, its Pleasures.

THERE are some questions in relation to agriculture that are of vital interest to us as practical farmers. In these days of struggling for wealth and honors, and in these days, too, of striving for making money in the easiest way, questions like the following come to us from many quarters. Is the profit of agriculture at all adequate to its labor? Is not agriculture a life of incessant toil? Of all trades and occupations, is it not the poorest investment for capital?

In a former communication for the Cultivator, I simply glanced at the subject; I wish now to consider it a little more in detail. The questions must be met and answered, and they must be answered fairly, too. It will not do to quote one or two instances where men have been particularly favored, and have acquired property by agricultural pursuits. It is with agriculture as a business, a calling, that we have now to do. I say the questions must be answered, and fairly answered, and the answer to them is a matter of vital interest to us as practical farmers.

Many young men are yearly leaving their fathers and going to the large cities to seek employment. Some become clerks in stores, others become cartmen, some become one thing, some another; all however, under the fixed apprehension that anything is better than agriculture, that everything pays a better profit. If it can be proved that everything is more profitable than agriculture, that it is a calling scarce worth following, and in fact only followed either by rich men for their amusement and pleasure, or by those who have been brought up to the business, and who cannot get out of it—then indeed have we found a mystery. What is it but this—that agriculture, the most ancient, the most hono[illegible] of all occupations—the main spring of trade[illegible]erce, and of all other occupations,—the sourc[illegible] which all the other callings derive their support—that this, I say, is worthless. But if, on the contrary, it can be shown that the complaint is ill founded, something at least for the honor of agriculture will be achieved. I wish, then, in this article, to consider its labors, its profits, its pleasures. First, then,

ITS LABORS.—Mankind are ever prone to find fault with the occupation which they have chosen, or into which circumstance have called them. It is by no means wonderful that some farmers should complain of their lot; if they did not, it would show a superiority in their calling above all others. Who has not heard the doctor complain of the hardship of his lot, the lawyer of his, the merchant of his, and men of all other occupations and trades of theirs. Now it is no doubt true that the labor of the farmer is severe. He must make hay when the sun shines. He must plow and hoe through the long summer day. His sweaty brow, his sun-burnt cheek, betoken him a man of toil, but his rugged countenance betokens, too, that his toil is healthy. His face bears not the care-worn look of the doctor, anxious for the fate of his patients; or the lawyer, studying patiently and laboriously the cause he is about to try; or yet the merchant, plodding over his account-books. The farmer's toil is hard, but when night comes, he can lie down in calm repose and rest from his labors, while nature is carrying on the process of growth among his crops. The farmer's toil is hard, but we may hope from present appearances that much of the severe physical labor to which he has been subjected, may be ameliorated by the invention of labor-saving machinery.

THE PROFITS OF AGRICULTURE.—Is it at all adequate to its labor? I think it is. I think that all other things being equal, agriculture can be made to pay as good an interest as any other legitimate occupation. It is an axiom of trade and business, that the greater the risk, the greater the profit. Now, agriculture is truly a legitimate business—it is a choice which a man makes from among the various branches of social occupations as to which way he will obtain a livelihood. Any man, therefore, who enters into the pursuit of agriculture as a matter of *speculation*, will be very apt to be disappointed; but if he enter into it and is qualified for his business, I think he cannot fail of making a compensation for his labors. Things, I believe, are more evenly balanced than men are willing at first sight to admit. Now I do not claim that the profits of the farmer are as large as the profits of the merchant. I do not know whether they ever will be—there are many things in the way which forbid it. In the first place, the risk of the farmer is not by any means as great as the risk of the merchant, and according to the axiom of trade we have mentioned he cannot look for as large profits.

But again, there are facilities connected with the *credit system* which belong solely to the merchant and trader, which the farmer cannot, with safety, avail himself of. A merchant with a capital of five thousand dollars, often trades to the amount of twenty thousand dollars; sometimes to a much greater amount. Some singular developements of the *abuse* of the credit system came to light during the panic of 1837, in the city of New-York. Men with little or no capital, failed for immense amounts. Perhaps some one may say, "well, if my capital of $5,000 gives me the opportunity of trading to the amount of $20,000, I am better off in business, and can make more by my business than the farmer can, with the same amount of actual capital which I possess." I would reply to that—yes: so you can, but if you think it both safe and honest, it is more than I do. You run a great risk and get a good profit; so long as times are good and business prosperous, you may get along, but let a *panic* come, and then what? Not only are you almost certain of failing yourself, but in your downfall you make others suffer with you—you are, in fact, living and doing business on other men's money. It is computed as a moderate calculation that 80 to 85 business men out of 100, fail during a period of 25 years. This thing alone, to any man sensitive to debt, would render him cautious about entering the arena of trade.

From the remark above made, I hope no one will think that I oppose a just and lawful *use* of credit—this is well and good—it is the *abuse* and not the *use* of it, that I would censure. A man may trade and do business to once, twice, and even thrice the amount of his capital, and yet do a safe business, but when he attempts, on a small capital, to do a business unauthorised by that capital, I say then it is not morally honest. Many men make more money than the farmer, but we cannot always measure the amount of actual profit by this alone; for those who make the most, are of necessity obliged to spend the most. Thus the merchant, doing a large business at home and abroad, is of necessity compelled to entertain largely. His profits are doubtless sometimes large, but his losses are often heavy, and his expenses great. His style of living, too, must be somewhat in accordance with his business. Let no man say that this matter is optional, that the merchant *need* not do it—he *must* do it. It is to a great extent by his courtesy and hospitality, and magnificent entertainments, that he *obtains* his business.

The profits of the farmer may be slow, but they are sure, and we entertain a hope that with more knowledge, they will be more rapid and still remain sure. But before we consent to call the profits of the farmer less than those of many other occupations, let us examine a little further into the matter. Take, for example, the mechanic; do his wages enable him to get rich in a little while? So of the doctor and the lawyer; years of toil and study must first be passed through, before they can arrive at great profit or eminence in their professions. If the young farmer leaves his father's farm for the sake of the *profits* attending a clerkship in some large city, we think he will be mistaken, for it is not long ago that meetings were held in the city of New-York, among the clerks, with a view to better their condition, and it was stated as a fact, at some of those meetings, that the average wages of clerks was not equal to those of day laborers; and upon these wages they were obliged to live and make a respectable appearance; and I feel warranted in saying that things are no better now. Here and there a clerk with fine business talents may rise to eminence under favorable circumstances, but as a general thing, the rising of a clerk is like promotion in the army and navy, *very slow*.

The profits of the farmer may appear slow; but look at the facts in many cases; see how many farmers are laboring under heavy debt. Small means and a heavy debt, would be a great drawback in any business; but yet the industrious and enterprising farmer is not dismayed at it; through difficulties, through trials he presses onward and in most cases wins the victory. It must be an occupation worth following that can enable a man to do this. But with the farmer, it is not only the actual profit he derives, for if he is a good manager his farm is always increasing in value, and this is a continual profit to him. Many instances can be shown in almost all sections of the country, where men who began farming with very little means, are now quite comfortably off. If, then, farming has been made a source of profit in days gone by, may we not hope when the light of science shall be brought to aid practical experience, that the profits of the farmer will be increased according to the intelligence and experience which he brings to his vocation. If the farmer would make his calling profitable, he must learn to think—to work with his head as well as with his hands. The same system of farming will not answer for all parts of our widely-extended country. In one section it may be most profitable to grow wheat, in another corn, in another to raise stock, in another to keep cows, in another to sell hay and buy manure; in almost all to combine with farming the growing of fruit. About these things and a hundred others, the farmer must use his own judgment, and in each and all, must take care not to be wedded too much to the opinions of his fathers, for since their day, things have changed; railroads, canals, steamboats have brought the far off places of the West in close communication with the seaboard, and we, who occupy soils worn by the culture of long years, must redouble our vigilance, if we would compete favorably with our western friends. Above all things, let us never despair. If we think that other men in other callings are making more money than we are, let us be satisfied with our lot, when we think that our calling is less harrassing, and in general far happier. But we must take care and not be deceived by appearances, for when we examine the matter closely, we will find that gold and silver are not accumulated very fast at the present day, in any ordinary business.

I have spoken of the toil and the profits of agriculture. I cannot leave the subject without, for a few moments, turning to its PLEASURES. My farmer friends, I cannot but feel that few of us esteem our noble calling as we ought. With many it is a life of ceaseless and unending toil, no higher aim or object is seen in it, save to plow, to sow, to reap, to "do business and get gain;" so that the dollar be made, no matter whether the soul is buried beneath the body's toil or not. Lost in its toil, we think not that it has a pleasure. But let us pause a moment and look around us; there are things that come to us in the way of our business, that to other men, in other occupations, would be looked upon as luxuries. It is in the power of every farmer to have a good garden; from this garden, during the season of vegetables, his table can be supplied at a trifling expense, with the choicest and freshest of them; so too of fruits, apples, pears, peaches, cherries, plums, and a variety of others, all can appear at his social board. During the summer months, the inhabitants of the city fly to the country for health and fine air, whenever [illegible]rtunity offers; but the farmer and his family, if [illegible] and fine air are to be found in the country of [illegible]bode, will be sure to possess them. Contrast the pale and sickly appearance of many children inhabiting our large cities, with the rugged and healthy look of our farmers' boys and girls, and tell us if we have not cause of rejoicing. Need I tell you of the many rides you enjoy through the still, sweet summer morn, which to the mechanic or man of trade, would be so welcome? Need I point to the sweet flowers around your dwellings, growing there almost spontaneously, whose perfume greets your senses? Different, ah! different indeed is your abode amid fruits and flowers, to the abode of him who is hemmed in in the busy mart of trade. There is not a busy time or season but hath its joy for us. From the first note of the peepers in the early spring-time, through the flowery summer, the rich and golden autumn, and the social hearth of winter, each and all in their good time, bring to us cause for rejoicing. What we stand in need of most, are contented hearts and refined minds, to respond to the soft influences of nature that are ever around us. Let us not be so wrapt up in the toil of our life, as to forget the pleasures in our path. H. C. W. *Putnam Valley, N. Y., August*, 1850.

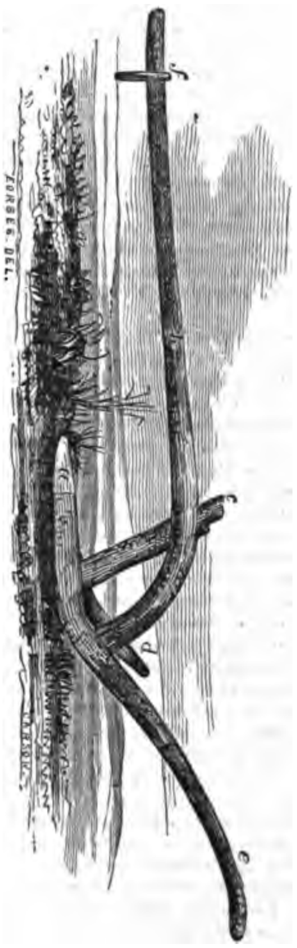
Oriental and Ancient Customs of the Moors and Arabs:

Their rustic habits of rural life—their Plows and modes of Tillage—they are no "book-farmers"—the patriarchal and nomade customs kept up—the women "grinding at the mill," and "gleaning and thrashing" in the fields—the Arab's substitute for railroads, &c.—their grain-pits—"plowing with the heifer," and divers other droll kinds of team—the Arab fond of a roving, pastoral life—concluding with the "Wild Arab Song of Freedom."

TANGIER, June 20, 1850.

L. TUCKER, Esq.—*Dear Sir:* Above I send you a drawing I have made of a Moorish and Arab plow, with a key, descriptive of its various parts, their proportions, &c. Although I have been thus particular in my description, I do not suppose that this plow will be very generally adopted as a model by the American farmers. And yet, in a land so abounding in *tall timber* and *crooked sticks*, such an earth-scratcher may be made very cheap! Should these, or any other motives, induce in any of our Yankee farmers a desire to adopt this very naturally formed implement, they need have no fears of being prosecuted for a breach of patented rights—as I promise to stand between them and all harm, on that score!

It is peculiarly, emphatically and appropriately, the "anti-book farmer's plow." For those who make and use these plows are inexorably averse to anything like agricultural reading, or knowledge, whether it be imparted in the form of books, periodicals, or orally. They read no book but the Koran—and I believe that is not particularly prolific in agricultural knowledge. These people believe that all improvements that have been made since the days of the patriarchs, are shocking innovations. As the primitive fathers "tilled the earth and tended the flocks," so they have been content to do it, and will be henceforth and forever. All innovations upon those time-honored customs, they regard as but the wicked devices of those who would lead the children of "the faithful" astray from their nomade simplicity, into the meshes of the bookmen of modern times. As the women in those days were made to "grind at the mill," and prepare the corn for their lords and masters—so are they now. There is scarcely a Moorish house in this country, or an Arab tent, but contains these symbols of antiquity. And it is but a day or two since, that on taking a ride into the country we saw the Arab women "gleaning in the field, after the reapers," a la mode Ruth and her antedeluvian sisterhood. "Lo she (Ruth) gleaned in the field until evening, and *beat out that she had gleaned;* and it was about an ephah of barley." So, also, we saw the women "beating out" what had been gathered together. In one place we saw about twenty of these nomade damsels, with merry laugh and lively glee, seated on the ground, with loose bundles of barley before them, each taking a handful at a time in one hand, while with the other, they "beat out" the grain with a rough billet of wood, (or "a staff," as it used to be called,) about the size of a common pastry-cook's "rolling pin." The process is thus described by Isaiah, ch. 28: "For the fitches are not threshed with a threshing instrument, neither is a cart-wheel turned about upon the cummin; but the fitches *are beaten out with a staff,* and the cummin with a rod." "Rise and thresh, O daughter of Zion," saith the Prophet Micah. "Rise and thresh, O daughter of the prophet!" exclaims the Moslem task-master to his spouse, on the breaking of morn. This is a famous country for threshing. The women thresh the grain, and the men thresh the women; the Bashaws thresh the men, and the Sultan threshes the Bashaws; and some of the Europeans threaten to thresh the Sultan.



MOORISH PLOW, *taken at Tangier, June 15, 1850.*

A. *Point of the plow*, which is of wrought iron, and 1 foot in length.
B. *Beam*, 9 feet long, or 7 feet front of the brace.
C. *Brace*, of wood, about 1½ inches thick, by 4 inches broad.
D. *Mould-boards*, which consist of rough blocks of wood, about 2 inches square, nailed on each side, which, together with the point, which is about 3 inches broad, makes, not a furrow, but a rut or scratch in the ground, some 6 inches broad and 4 to 6 inches deep.
E. The *kasella*, which consists of a crooked stick, with a Moor at one end, and a sharp point of iron (A) at the other.
F. A wooden pin, about a foot long, around which a noose or thong is put, and fastened to the belly-yoke.

As they "laded their asses with corn" in the time of Pharaoh, so do they now, as we see here, on the return of every market day. No such innovations as canals, or railroads, or wagon roads, or wheel carriages, are ever suffered to exist here. The mere suggestion of such a thing would startle the natives from their dreamy propriety. But as in the days of Joseph "they (his brethren) lifted up their eyes and looked, and behold, a company of Ishmaelites came from Gilead, with their camels, bearing spicery and balm, and myrrh, going to carry it down to Egypt"—so will you now see these sons of Ishmael, with their camels bearing spicery, and their various products, going to carry it down to some Egyptian mart, or to the best markets of the Empire.

There, too, are the *grain-pits* of the ancients. There are myriads of these scattered over all the the country, about every town, and secreted among the secret recesses of the mountains. In passing through the soco, or market-place, just outside of this town, you can scarce avoid treading upon these subterranean granaries. In riding out one day, our horse broke through, with one of his hind feet, the covering of one of these pits, and we came very near being in the predicament of poor Joseph, when thrown, by his envious brethren, into a similar pit. They are usually, however, made very secure, and often, in the country, covered over so carefully and privately, and so completely overgrown with grass, as not to be discoverable except by those who have charge of them. This is to prevent surprise or robbery in times of war, insurrections, &c., and also to keep them out of reach of the Emperor's clutches, who is not very backward or scrupulous about helping himself to all the surplus forage he can lay his hands upon. Quantities of grain frequently remain in these pits for years, without sustaining any material injury, although they are generally constructed by simply digging the pit-holes the required size, (something like the way our cisterns are made,) and lining the sides with cement, leaving a small aperture at the top, through which the grain may be passed, and into which a man may enter, as occasion may require. They are made of any required size.

The Moorish *hoe* is a very useful implement, and not quite as uncouth and primitive as the plow. The Moors never use a shovel or spade, nor a wheelbarrow. They use the hoe in all kinds of digging. In excavating a well, or loading manure, &c., they hoe the earth or manure into small baskets and carry it to its place of destination. The hoe resembles somewhat a small, stout spade, in the blade, and has a handle very much like that of a pick-axe.

The first I had seen of the Moorish plow, or plowing, was about the middle of January, 1849, while taking a short ride into the country. The plow was similar to the one shown in the above sketch, and was drawn by a *bull and cow* yoked together! This, thought I, is "plowing with the heifer" in the most literal manner conceivable. I looked intently in the face of the wild *sans culottes* of a mountaineer at the tail of the plow, to see if he did not betray some symtoms of compunctious shame at this desecration and perversion of feminine rights and privileges; but he appeared as stoical and unconcerned and self-complacent, as any person could be, who considers himself strictly within the line of propriety, and of his duty; and the only emotion discernable was that evinced by an additional stab at the poor animals, with the long pointed goad which the Arab flourished in his hand, as if in retaliation at my looks of surprise and pity.

The apology for a *yoke*, consists of a long, rough stick of wood, three or four inches in diameter, placed across the necks of the animals, and projecting far enough on either side, to admit of a thong or strap being fastened to it; this strap, at the other end, is hitched to a cross-bar which passes under the cattle, just back of the fore legs, and is connected in the centre to the wooden pin (F) at the end of the plow-beam, something upon the plan of a neck-yoke of a pair of horses, when hitched to a wagon. The effect of this constraining harness is, to bring the heads of the animals down so low that their noses nearly touch the ground. If they undertake to raise their heads, they are checked by the cross-bar under their bellies. I have seen another kind of yoke, which operates directly the reverse. It is simply a block of wood passing in front of the horns, (to which it is lashed,) with a thong fastened in the centre, and attached to the end of the plow-beam. This draws the heads of the animals into the air, presenting a very ludicrous appearance. I saw a similar contrivance in Spain. The cattle are sometimes driven with rope reins, fastened to the outside horn of each animal.

Horses are never used for plowing. It is considered too degrading an occupation for so noble an animal. But oxen, cows, bulls, mules, donkeys, and camels, are all indiscriminately pressed into the service. Sometimes there may be seen yoked together a donkey with an ox, a bull with a mule, two cows and a *camel with a donkey!*—all trudging on with as much patient philosophy and indifference as the natives who drive them. And it is said that the wilder of the natives sometimes harness their *wives* to the plow. But this I do not credit, although I have seen them employed in almost every degree of menial drudgery conceivable, from grinding at the mill, and hoeing and delving in the fields, to chopping wood, and carrying it to market on their heads!

In plowing, they merely scratch over the ground, leaving a sort of rut scarcely over four or five inches in diameter, looking as though it had been rooted up by the wild boars, and this they have to do in the winter, after the rains have moistened the earth, as it is so hard and baked in the summer, that it would be difficult penetrating it with even a more potent instrument than their wild-boar-nosed plow. Nearly all, in fact of their general tilling, as well as plowing, is done in the winter. From the first of November to the first of June, is the growing season for all vegetation.

The soil, especially of the vallies and flat lands, is rich, deep, and remarkably fertile, notwithstanding it has been worn for ages without manuring. There seems to be no sub-soil, or hard-pan; but for six or eight feet in depth, the same dark, loamy sand, or rich alluvial, appears to prevail; and it produces fine crops in spite of the slip-shod treatment which it receives. With an enlightened, efficient mode of tillage, this part of Africa might be made one of the most productive portions of the earth. But the natives, especially the Arabs, are too fond of a roving pastoral life, ever to settle down to improve the soil in the slow, patient manner that is requisite to success. And there is but little encouragement to patient industry, if they were not naturally averse to it; for were they to build up thriving and profitable plantations, these would, with all their hard-earned profits, be stripped from them by the harsh and grasping hand of despotism, which seizes upon everything that will minister to its pride and luxury. Hence the sons of the desert and mountains, prefer their wild, roving life—they are the Nimrods—the "mighty hunters," who delight in the chase, and are never more at home than when mounted upon their swift barbs, and sweeping over valley and mountain and sandy plain, in all the wild freedom of nature, and making the mountains reverberate with their wild chanting notes, as they sing:

"Away, away, my barb and I,
As free as wave, as fleet as wind,
We sweep the sands of Araby,
And leave a world of slaves behind.
'Tis mine to range in this wild garb,
Nor e'er feel lonely though alone;
I would not change my Arab barb,
To mount a drowsy Sultan's throne.
Away, away, &c.

"Where the pale stranger dare not come,
Proud o'er my native sands I rove;
An Arab tent my only home,
An Arab maid my only love.
Here freedom dwells without a fear.
Coy to the world she loves the wild;
Who ever brings a fetter here,
To chain the desert's fiery child?
Away, away!" &c.

Well, Mr. Editor, I began with a *plow*, and will close with a *song*, so that you will have at least a little spice of variety, if nothing more. Perhaps at some other time, I may give you an article on the BARB, or Arab horse. I have a noble and elegant gray Barb, and a beautiful Arab pony, which I design taking to the States with me, in a month or so, as well as a pair of Spanish pigs, a young wild boar, some Spanish fowls, &c. I hope to reach home in time for your State Fair. Yours, truly, T. H. HYATT.

Means for Mental Improvement.*

> There is a tongue in every leaf—
> A voice in every rill;—
> A voice that speaketh everywhere,
> In flood and fire, through earth and air!
> A tongue that's never still!

FARMERS often complain that they are deficient in education. For this there is no necessity. Let them support and improve good common schools. Let them avail themselves of the other means of mental improvement within their reach, and they will acquire an education adequate for any occasion they will be called to meet; and they will hold an elevation in society held by no other class of men. It is known that they have a large amount of leisure. Let this be spent in the cultivation of their minds: in laying up stores of useful knowledge.

The benefits of the common school have been named. They make a good foundation for any subsequent mental culture. Then let the leisure time of farmers be spent in reading good books, good family newspapers, and studying the topography and statistics of the country. Read no bad books; they are worse than none. Let every family take a weekly secular newspaper; a weekly religious newspaper; and a monthly agricultural paper. Let the families in the same immediate neighborhood—half a dozen or less—act in concert; not all take the same papers, but as many different ones as they can. Let these secular papers come on different days in the week; one Monday, one Tuesday, one Wednesday, and so on, so that a fresh paper will come into the neighborhood every day. Let all exchange these papers with each other, after each has been read by its owner. The religious papers should come the latter part of the week, so that each family have a fresh one for Sunday. Thus, these six families will all have the benefit of six different secular papers, giving them all the important news fresh, with a vast amount of valuable miscellaneous matter—in the course of a few years sufficient to make a little library, were it in volumes. A year of such reading will be of equal value to a family, especially the young members of it, as going to school three months. If paid in advance, as newspapers always should be paid for, the cost will be to each family only about five dollars—equal in value to twenty-five dollars in tuition for going to school.

An objection is at once made that the expense cannot be endured; and possibly that there is no leisure for all this reading. As for the latter, a plump contradiction is interposed. There is time for it, and much besides. The pecuniary means are easily provided. Let every farmer appropriate the produce of half an acre—if he has a large farm, an acre, for literary purposes—for the education and mental improvement of his family. Let it be well tilled, well manured, and planted with potatoes, corn, cabbage, wheat, oats, or whatever will give the best crop. Let it be understood, that the profits are not to be touched for anything else, and you may depend upon it, there will be no neglect in its supervision. No more will a weed be found upon it than upon a Macadam turnpike. The women of the family will watch its growth; the boys will keep their hoes bright as swords and bayonets, in destroying whatever should be removed. The profits on this half acre will certainly be fifteen dollars. Here, then, in a district of six families, will be ninety dollars to be expended in mental culture; five dollars to each family in paying for the periodicals above named, and ten dollars to each for the purchase of interesting and useful books! Let the three hundred agricultural families of a town containing, it may be, from three to four thousand inhabitants—a fair equation—do this, and in ten years, when the children are grown to adult stature, what a change will their society exhibit! Think of it, reader! Make a beginning! The example, under proper inducements, will spread like wildfire.

To encourage an enterprise so pregnant with results, let agricultural societies offer a premium of one hundred dollars to the town within the limits of the society's operation that has, according to its population, the greatest number of these fields devoted to literature; and let each town give a premium of ten, fifteen, or twenty dollars, for the greatest profit on any one of these half acres in that town. Are there no persons in our state and county agricultural societies to make such a movement; and may not individuals in every town be selected to do the same? Let some of the old premiums offered by towns for killing wild cats, wolves, and bears, as that description of gentry so troublesome to our forefathers, has been destroyed, or has prudently removed to other regions, be now offered for making our sons and daughters fit for a residence, six months every year, at the seat of the Federal Government. Nothing is wanted for the effecting this, but the zealous efforts of a few distinguished individuals in every town.

It is not often considered what large results come from a cause in itself frequently very diminutive. Many may, and doubtless will, ridicule the proposition suggested. A case may be named apropos to the scheme here recommended. Nearly fifty years since, a boy of eight or ten years old was known to live in one of the then new townships of our country. Probably there was not a book there, save a small family Bible, here and there Watts' Psalms and Hymns, spelling-books, small arithmetics, and half a dozen or so of Morse's dollar geography. These constituted the literature of the town. This boy was allowed to plant a little patch of potatoes, it may be half an acre. The increase was annually sold at about twenty cents the bushel, and the cash laid by. During this period he accidentally came across the last volume of Josephus in six volumes, belonging to a little social library of two hundred volumes, in an older settlement, ten miles distant. He read that volume with eagerness. The influence upon his mind was incredible. Previously he knew nothing of books save those named. Of a library he had never heard. The importance of this one acquired more value in his mind than a gold mine. He resolved to appropriate a portion of his potato funds for an interest in it. He did so; and weekly, for several years, he continued to take a half day for obtaining a book to read the succeeding week. However, this did not satisfy; he wanted books of his own. His potato funds were used up in the purchase of them. At sixteen he resolved to obtain a public education. This he accomplished; studied a profession; took no small part in promoting the literature of the country; and finally received the highest collegiate honors; the whole of which may be referred back to the products of a little potato patch applied to mental improvement.

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* From Dr. BLAKE's new work "Farmer's Every Day Book."

Although we have given a prompt denial to the excuse for a neglect of reading and study, that there is a deficiency of leisure time, yet we propose here to examine it more minutely. It is admitted that to those who have not examined it carefully, there may appear to be some plausibility in it. Truly, in the summer season, especially, and during the hours of daylight in the winter, farmers may always find something to do. Allusions are elsewhere made, on the one hand, to the constancy of rural occupation, and on the other hand, to the opportunities of persons thus occupied for ample intellectual culture. As the subject is of vast importance, a few paragraphs may well be devoted, to a better comprehension of the nature of these opportunities. They will be found far more numerous and ample than is supposed. The experience of hundreds and of thousands of persons habitually employed in manual labor of some kind or other, is in confirmation of the views here presented. It is too well known to require, in this place, any particular account, of individuals both in this country and elsewhere, who have risen to eminence, having laid the foundation for it in habits of study and reading amidst the most constant applications to mechanical or agricultural occupations. Among these individuals will be recognized those of the first grade of distinction in the learned professions and of political life. Such instances will be more and more frequent as the subject becomes better understood.

The evenings, themselves, afford an average of three hours each for one half of the year. This, in the thirty-five years between the age of fifteen and fifty, is sufficient, if properly applied, for the acquisition of more knowledge from books and study, than is ordinarily acquired during a course of classical and professional study in our best public institutions. Three hours a day, for six months, Sundays excepted, will be four hundred and fifty hours; and this multiplied by thirty-five, the number of years supposed, will be fifteen thousand seven hundred and fifty hours. Now if we suppose a course of classical and professional study in our public institutions to embrace a period of eight years—four in college, and four besides; and, that each individual is occupied eight hours a day, for two hundred and twenty-five days, each year, the rest of the time being Sundays and vacations, the entire period of his study in the eight years, will be fourteen thousand and four hundred hours, less by about one-tenth than is at the control of every farmer, without interference with his labors, and putting the summer six months entirely out of the calculation. Thus it will be apparent, that every farmer between the age of fifteen and fifty years, in his long evenings, has one-tenth more of leisure which might be devoted to intellectual improvement, than the average period which young men devote to classical and professional study in the best public institutions in the country. Yet how little is this realized! How few take advantage of it! How few are aware that such is the fact! Yet, how many might, by this means alone, arrive at a position as scholars, in society, of which they do not dream!

Nevertheless, valuable as these evenings are, when standing alone, it may easily be seen, as we shall show, that they are but a fraction—a small fraction—of what is within the reach of the agriculturist. We beg our readers not to be alarmed. We are to advocate no relaxation of manual labor—no neglect of attention to the various details of occupation in the best forms of husbandry. Far be it from us to encourage a relaxed viligance in the supervision, or a superficial adhesion to the most thorough systems of practical farming. Far be it from us to attempt invigorating the mind by reducing the support of the body; or by pursuing mental wealth by impoverishing the purse. The process we shall recommend will be attended with no such liabilities. Indeed, the reverse will be the consequence.

If manual labor, particularly in agriculture, were similar to the labor of the merchant, or to professional occupation, our hypothesis would be unsound, and of course impracticable. The labor of the latter is not manual, but almost exclusively intellectual, leading also to physicial exhaustion. Not such is the labor of the agriculturist. With few exceptions, his labor is as mechanical as the action of a clock. After his subject is once understood, the action of his mind is not required; his thoughts can scarcely be said to be upon it. A man, for instance, in walking, moves his feet mechanically, seemingly without the slightest volition. Of course, his thoughts may be on any other subject; the solution of a mathematical problem; or, questions in history, philosophy, and metaphysics. Indeed, how peculiarly favorable to the workings of the meditative mind is the exercise of walking, far more than the seclusion of the closet! This gentle physical action seemingly puts the mental machinery into motion; the vigor and elasticity of the one, facilitates corresponding developements in the other. Besides, what an enlivening influence is here imparted to the mind, by the beautiful array of nature spread over us in unmeasured loveliness! Who can inhale the rich odors of her vast domain, floating on every passing breeze, or behold the graceful waving of trees and grass, or hear the rich, untaught melody of the feathered creation, during his morning walks, and not experience a fresh impulse of thought in his own bosom? The individual that can do it, barely deserves the name of man; is but little elevated above the brutes.

Notes on Farming in Ohio.

EDS. CULTIVATOR.—From Massillon I went to Coshocton. That town is but little changed in appearance from what it was a dozen years ago. The canal being on the opposite side of river, (Muskingum,) the town of Roscoe, at the junction of the Ohio and Erie and Walhonding canals, has the most of the business, and gets the produce for a considerable extent of country around. At Roscoe, there are two very extensive flouring mills, and this year there is wheat enough to keep them in full operation.

In the immediate neighborhood of Coshocton, there *is a change*. What used to be called "the plains," which fifteen years ago produced little else than scrub-oaks, has now been converted into farms of the most flourishing appearance. Several brothers by name of Burt, and other families from Orange county, N. Y., went there and bought considerable tracts of this plain land, at very low prices, and instead of its being the poorest land in the county, it is now considered almost equal to the best bottom or alluvial lands. It is easy to cultivate, and with a proper rotation of crops, and the judicious manner in which the owners manage it, it is very productive. There seldom occurs a failure of a crop. The wheat and other small grains, do better here than on the bottom land. I have heard of crops of corn that were 90 to 98 bushels to the acre, last year; and this year the prospects are good for crops equally as large. The bottom lands are very rich, and very extensive, both up the Walhonding and Tuscarawas, and down the Muskingum valleys. Corn is the staple commodity on these bottom lands, and is grown to a very great extent—especially down the river 15 miles, as far as Dresden.* There are here many good farmers, and their crops are generally 75 to 100 bushels to the acre. There are, however, (perhaps unfortunately) many *large land holders*, and some of these rent out their lands on shares, or, for 20 bushels of corn to the acre, (equal to about five dollars) and there are numerous instances where the same land has been kept in corn for 15, 20 or 25 years in succession. I asked the question of different persons, how the crops compare with those raised ten years ago? The answers generally were, 10 to 15 bushels per acre less. This system, if pursued, must, I think, before many years, necessarily require a change. The tenants, occupying only from year to year, naturally want to *get off* all they can; and at the same time bestow as little labor as they can; and as soon as they can accumulate sufficient funds, they are off to the new lands of the west. There is but a small amount of live stock in the valley. The owners, or land lords, require the corn-stubble to be left on the ground, and plowed in—that generally being all the manure that is applied to the soil.

Messrs. E. and G. W. Adams, near Dresden, pursue a different course from that above described. They have, within the last few years, commenced the stock-feeding business. This year, they cultivate 240 acres in corn, besides other large tracts rented out on shares. Their lands are partly used for hay and pasture, in connection with corn and other grain. They pursue the Sciota system—cut the corn and put it in shocks, and from it feed through the winter. Last year they fed 800 head of cattle; this year they will probably feed 1000, for the Philadelphia market. These gentlemen have recently annulled two flouring mills that were built some 15 or 20 years ago, and have erected, at a great expense, two other mills, which combine all the improvements of the present age, and are so arranged as to save a vast amount of labor. They make and ship to the house of Adams & Sturges, New-York, from fifty to sixty thousand barrels of flour per annum, and it is of such superior quality as commands a price much above the ordinary brands.

At Zanesville, the mills have been put in the best condition, and they are preparing to do a large year's business. Some of the flour made here, is probably equal in *quality* to any made in the whole world. It is a wheat region, and has obtained a *reputation* for its flour, though I believe the quality is this year remarkably good everywhere. The variety of wheat called the "white blue stem," introduced here a few years since, by Mr. Jas. L. Cox, from Pennsylvania, is grown to some extent, and is very highly approved. It makes the most beautiful flour of any kind known. It is sought for at five cents or more per bushel advance on the price of other varieties, and all say the yield is equal to that of any other wheat.

I believe it is a well founded opinion, that the crop of wheat in this State, this year, is one-fourth larger than in any previous year. It is also said the wool clip this year has brought three millions of dollars; and to these add the corn, the beef and the pork, each of which are immensely large, and many other items of minor importance, and the products of Ohio this year will amount to a sum much larger than has heretofore been conceived of.

I find, almost everywhere, a disposition to extend the sheep and wool-growing business. The country and climate are well adapted to sheep, and if the management is properly understood and pursued, it will, I think, yield more in proportion to the capital and labor employed, than almost any other branch of farming. There are some very fine flocks in this neighborhood. A. C. Howard, C. Merriam, P. Buckingham, and others, have wool of superior fineness. Mr. Buckingham has, in different parcels, upwards of 2,000 sheep, and sold his entire clip this year at 41 cts. a pound.

Mr. Buckingham and Mr. Shelton Sturges, are devoting some attention to the breeding and raising of Devon cattle. Mr. Sturges has a portion of the stock that Mr. Isaac Dillon, of this place, brought from the farm of Mr. Patterson, of Maryland, a few years since. He has a cow and calf which, with some others, will be taken to the State Fair at Cincinnati, in October next. This cow is of beautiful form and symmetry—the hide and hair very soft—color dark red, exhibiting a rich, glossy appearance.

CULTURE OF THE GRAPE.—In the neighborhood of Cleveland, there are several persons who are bestowing considerable attention to the culture of the grape, and in the vicinity of Zanesville and Putnam, something has been done in this way. In the latter section the crop this season has been almost entirely destroyed by the curculio. Some persons think it the same insect that attacks the plum, but it is probably different. Mr. Levi Hartley, of Putnam, has, by much pains, saved a portion of his crop, and will again make a few pressings of wine. I tasted some which he made a year ago—the pure juice of the grape, with 1¼ lbs. of loaf sugar to the gallon, which is of very superior quality, and with two or three years age, I think would be equal to imported Madeira. It will readily sell at $2 per gallon. Mr. H.'s mode of manufacture is very simple, and not expensive. He may furnish you an account of it for publication. JOHN R. HOWARD. *Zanesville, O., Sept.* 18, 1850.

Wire Fences.

EDS. CULTIVATOR—Agreeably to your request, I write you on the subject of making wire fences.

In the fall of 1846, I commenced making wire fence, along a road running through a piece of wood. Five No. 9 wires, about ten inches apart, were stretched from tree to tree, and between each of these wires was stretched smaller ones. The wires were fastened to the trees by nails driven into the trees, one above and one below the wire, causing their heads to touch each other when they touched the wire. The five large wires, it was thought, would keep out cattle, and with the small ones keep out hogs, sheep, &c. This fence failed in the following points:

1st. The nails opened. This evil was remedied by winding small annealed wire around the nails. This was expensive—has since failed—rusting and being easily broken.

2d. The small wire broke, and sheep and hogs passed through the fence.

3d. The wires became bent; after four years use this fence proved a failure, both in appearance and utility.

The next wire fence was along the line of a lot, running east and west, through ground liable to heave with the frost, and from its situation exposed to the north-west winds. Good chestnut posts were well put into the ground, about 12 feet apart—some of them braced. Four wires were stretched along these posts, tightened, and fastened with staples made from the same kind of wire. This fence, when first put up, appeared well and strong; but it was a failure. The posts were loosened and heaved with the frosts; the wind from the south would incline some of the posts one way, and the north-west wind, in its fury, would incline some another way. The wire became bent, and in two years the fence was removed—it had failed.

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* I am sorry to say that large quantities of this corn are used in the distilleries, and the liquid makes a large amount of commerce on the Ohio canals; but it is here, as elsewhere, men will do what they can make money by.

The next fence was made along both sides of a public highway, running east and west, where the snow was liable to be drifted in. Along this road, ran cattle, horses, sheep, hogs, &c. With post and board fence, they were often, after a storm, getting in from the road. On the south side is a meadow, on the north a meadow and two gardens, close to the fence.

I have been thus particular, for along this road a wire fence has been made that has now stood over two years—neither winds nor frosts affect it; no snow drifts in the road; no cattle or horses or hogs or sheep pass through it, though grass, corn, potatoes, cabbages, beets, &c., are growing in full sight, almost to their very noses, and nothing but the thin and almost invisible wire presenting, as it were, an unseen, but as yet impassible barrier.

This fence and others I now make as follows:

Chestnut posts about eight inches thick, not less than nine feet long, are put into the ground not less than five feet deep, and from 150 to 300 feet apart. Great care is taken to have these posts beyond the reach of frost. The posts at the corner of the lots, are *very firmly* braced. Then a board (or plank, or timber, or pole,) is laid along between these posts, and small chestnut posts or strips about two and a half feet long, sharpened at each end, are driven into the ground at each end of the boards, so that two boards can be nailed to it; and a short post, or strip, is also driven near the centre of the board. The board is then nailed on to the strip, care being taken that the top of the strip will be a little lower than the top edge of the board when the board is nailed to the strips. Four inches above this board, a quarter inch hole is bored through the post; five inches above this another hole is bored, seven inches above this another, eight inches above another, and ten inches above this another—(this for a five wire fence.) The wires are now passed through these holes and fastened with staples. In tightening the wire, the weight of the wires is taken off, by rendering them through staples slightly driven into uprights, set up about every 50 feet for that purpose. Care is taken so to tighten the wire, that in adding the pickets, hereinafter mentioned, the wires will, when the fence is finished, be sufficiently taut. Pickets four feet long and one inch square, are now, about every four feet, nailed with two nails to the board, (or plank, &c.,) or passed through two staples, driven into the board, (or plank, &c.) The pickets are not necessarily driven into the ground but stand upon it. Care is taken to have the wires the same distance apart on each picket, as they are at the posts. This is done by placing a picket near the post, and fastening the wires to this picket by large staples, so large that this picket can slide along the wires as you place the other pickets, and fasten them to the board and wires. The wires are fastened to the pickets by small staples either driven home or so driven that the wires can render through them.

Another fence is made as follows:—Five horizontal wires, nine inches apart; pickets four feet apart —no board or plank, &c., at the bottom. This fence is fastened like a suspension bridge, at the two ends, and oscillates from one to three feet, according as the permanent fasteaings are apart. The pickets in some of the stretches, as the ground is uneven, will not touch it—the wires suspending the pickets from the ground. Stones, as wanted, are buried under some of the pickets; strips of iron or wire being wound round them. A piece of wire is then wound round each piece of horizontal wire, close along side of the picket, beneath which a stone is buried. The fence is thus brought down so that the pickets all touch the ground, and these wires being then fastened to the stones, the fence will be held in its place, strongly and well, by this unseen fastening. In some cases I hold down the fence by means of the boards or planks nailed at each end, to each other, by strips of boards about two feet long nailed along the ends. I have a fence like this running along a common, and no cattle or sheep, &c., have broken through it. Instead of wooden pickets, iron ones can be used to keep the wires separate and in place.

The following points should be preserved in a wire fence:

1st. The fence like a suspension bridge, must be *firmly* fastened at both ends, and *firmly* fastened nowhere else.

2d. The fence must be so constructed, that when cows, horses, hogs, &c., come in contact with it, it will be so loose that their contact will not be apt to bend the wire, and the oscillations of the fence will frighten them from it; yet so firmly fastened that the fence will return to its position when the disturbing cause is removed.

3d. You must have upright supports at proper distances to keep the wires apart, which supports must not be too firmly fastened.

4th. A wire fence should be so constructed that it will keep in and out what you intend to keep in and out; yet so constructed that men can climb over it and small boys through it, without bending the wires.

The holes that are bored in the large posts, are never plugged up with wood. Two men, at seventy-five cents each, exclusive of board, will put up 600 feet of this fence in one day. The cost of wire fence is as follows: Say cost of 12 feet or 1 panel—No. 9 wire at 5½ cts. per lb. is ⅓ of a cent per foot;

12 feet will cost	$0	20
1 board	0	8
3 pickets	0	3
12 nails	0	1
I post cut up	0	7
Staples	0	3
	$0	42

The gate I use is as follows:—A frame with a horizontal or diagonal bar across it. Holes are bored two inches apart through the three bars of the gate, large enough to receive the wires. The wires are placed vertical, and are cut of such a length that each wire runs from the bottom of the gate up through the top bar, curves about two inches above the top bar, returns down through one of the holes, and projects through the bottom bar from one to two inches. The stuff used for a gate twelve feet long, is 3 by 4; the stuff used for one of four feet, is 2 by 3. The cost of making the first mentioned gate, irrespective of materials, is fifty cents; that of the other is twenty-five cents. **Benjamin Nott.** *Rock Hill, Bethlehem, Sep.* 20, 1850.

The Rot in Sheep.

The disease in sheep called *rot*, has long been formidable in Europe, and has, in some seasons, been the cause of great losses to the owners of sheep in our country. It is a disease, however, which is but little understood by the American sheep-owners generally,—so little, indeed, that it has often passed under another name, and the mischief which it occasioned has been, in some instances, attributed to causes which had no connection with the disease. In a lecture lately delivered before the Royal Agricultural Society, by Prof. SIMONDS, on the "structure and diseases of the liver," some observations were made which throw much light on the nature of the rot, the means for its prevention, &c. We think a portion of his remarks will be read with advantage. EDS.

Prof. Simonds observed that no disease was probably so much feared by the sheep-owner, as the rot, and with reason, for it was most destructive to his hopes. It was in common parlance looked on as incurable, and therefore it was all important to inquire into the causes which gave rise to it. He need hardly tell them as practical men, that the prevalence of the rot depended very much on the quality and kind of food consumed by the animal. Some pastures were notorious for the rot in sheep; on other pastures, sheep, under all circumstances, in wet seasons or dry, were pastured with impunity. But as a broad principle, it may be laid down that an excess of moisture is prejudicial to the health of the animal. Sheep, by nature, are not only erratic animals, wandering over a large space of ground, but are inhabitants of arid districts. The skill of man has improved the breed, and he has naturalised them in moist and temperate climates, but, nevertheless, circumstances will take place, which show that the animal has not changed its nature; a wet season occurs, the sheep are exposed to cold and moisture, and the rot spreads among the flocks to a fearful extent. The malady is not confined to England or to Europe, it is found in Asia and Africa, and occurs in Egypt on the rising of the waters of the Nile. These facts are valuable, because they show that the cause of disease is general and not local—that it was not caused by soil or temperature, for it was found that animals in any temperature became affected, and on any soil in certain seasons.

A great deal had been written on the rot in sheep, which he could have wished had never been written. Many talented individuals had devoted their time to its investigation, endeavouring to find some one cause for it, as if it originated from one cause alone. But the facts he had or should allude to, would show that it arose from more than one cause. He had mentioned the facts with regard to the land sometimes producing rot and sometimes not; but he would go a step further and ask this question—was there any particular period of the year when animals were more subject to the attack? Undoubtedly there was. This time of the year [July] was the most likely period; and if a large quantity of rain now fell, the combined heat and moisture would produce a most luxuriant herbage. That herbage would be deficient in nutriment, and danger would be run, from the large quantity of moisture in the food acting as a direct excitement to the abnormal functions. When they had disturbance in the liver, and the accumulation of fat consequent on the animals being touched with the rot, it flourished much more than usual; and this reminded the lecturer that he had heard that the celebrated Bakewell was in the habit of placing his sheep on land notorious for rotting them, in order to prevent other people from getting his stock, and to bring them earlier to market for the butcher.

Referring again to the diseases of the liver, Prof. S. observed that the bile, in consequence of functional derangement lost its property of converting the chymous mass into nutritious matter, the animal fell away. Every part of the system was supplied with impure blood, for they might as well expect pure water from a poisoned fountain as pure blood when the secretion of the bile was interfered with. The liver being thus diseased, and the blood impure, they would have the existence of parasites of a particular kind. Some persons supposed that these parasites, which from their particular form were called flukes, were the cause of the rot. He regarded them as the effect—but although the effect, they multiplied so rapidly, that they became the cause of further disease. Animals in the earlier stages of the disease, before their biliary ducts became filled with flukes, may be restored, but when the flukes exist in abundance there was no chance of the animal's recovery. Those parties who supposed flukes to be the cause of rot had perhaps some reason for that opinion. Flukes are oviparous, they are multiplied by means of eggs, which mingle with the biliary system, and find their way out of the intestinal canal down on the land, for in the feculent matter of rotten sheep might be found millions of flukes. Mr. King, of Bath, unhesitatingly gave it as his opinion that flukes were the cause of the rot, believing that if sheep were pastured on land where their ova existed, they would be taken up with food, enter into the ramifications of the biliary ducts, and thus contaminate the whole of the liver. There was some reason for this assertion, because very little indeed was known with reference to the duration of life in its latent form in the egg. How long the egg would remain without undergoing change, if not placed under circumstances favourable to the development of life was unknown. It was the same with the ova, so long as it remained in the pasture it underwent no change, but place them in the body of the animal, and subject them to the influence of heat, the latent life in the animalcule would be developed. There was, therefore, some show of reason for this assertion, for how long life might be maintained in a latent form was not known. Wheat had been locked up for hundreds of years—nay, for thousands—in Egyptian mummies, without undergoing any change, and yet, when planted, had been found prolific.

In conclusion, Prof. S. made some observations on the mode of treatment. He was not there to say that rot was in all cases a curative affection, but at the same time he was fully aware that many cases of rot, that are now considered incurable, might be cured if sufficient attention was given to the animals. He mentioned one fact in illustration. About two years ago he purchased seven or eight sheep, all of them giving indisputable proof of rot in its advanced stages. He intended them for experiment and dissection; but as he did not require them all during the winter season, in which only he could dissect, he kept some during the summer. They were supplied with food of the most nutritious quality, and perfectly dry; they were protected from every storm, being placed in a shed, and the result was, that without the application of any medicine, two of those rotten sheep quite recovered; and when he killed them, although he found that the liver had undergone organic lesion, they might have lived on for years. Rot, in its advanced stage, was a disease which they might consider analogous to dropsy—an impure fluid accumulated in various parts of the body, chiefly beneath the cellular tissue: and then there was several names given to it; some called it the water rot, others the fluke rot; but it was nothing more nor less than the same disease in different stages. If flukes were present, it was evident that in order to strike at the root of the disease they must get rid of these animals, and that could only be done by bringing about a healthy condition of the system. Nothing that could be done by the application of medicine would act on them to affect their vitality. It is only by strengthening the animal power that they were enabled to give it sufficient tone to throw off the flukes. The next thing was to lessen the action of the ova on the intestinal canal; for this purpose many advocated salt. It was an excellent stimulative of the digestive organs, and might also be of service from the chloride of sodium which it contained. So well is its stimulative action known, that some individuals always keep salt in the troughs. That it was an excellent preventive, they had good proof, seeing that it mattered not how moist the pasture be in salt marshes; no sheep were ever attacked by rot in them, whilst those sent there infected very often came back free. Salt therefore must not be neglected; but then came the question, could they not do something more? he believed they could. They must throw tonics into the system, especially those which they got from the mineral kingdom. He should prefer sulphate of iron,—iron was found in animals,—it was one of the constituents of the blood, and used in the form of sulphate it gave a greater tone and energy than in any other form. Its use, therefore, ought never to be neglected in the earlier stages of the disease. He had already alluded to the fact, that when the liver did not perform its functions, an effort was made by the kidneys to carry out its functions, the kidneys should therefore be stimulated; but he must not be supposed to recommend the exhibition of diuretics which would produce debility, but of medicines which would give tone and strength to the system and act on the kidneys as well, for which purpose nitric ether was an agent which ought to be administered. The principles he wished to lay down were, to sustain the animal by placing them in a situation where they should not be exposed to the debilitating effects of cold storms, to supply them with the most nutritious food, such as contained but a very small quantity of water, and, as a stimulant, to mix with it salt. To administer sulphate of iron, and occasionally doses of nitric ether. He made no doubt that if those principles were carried out, that instead of sending their sheep to the knacker's yard, they would be able, at least in its early stages, to cure the disease and send their sheep to the butcher.

Fall Plowing.

The question is often asked, whether fall plowing is advisable? It may be advantageous or injurious, according to the character of the soil, and the circumstances under which it is performed. Soils which are too loose in their texture are liable to have their soluble matter drenched out of them, if stirred late in the fall, by the heavy rains of winter and spring. Hill-sides are, also, liable to be washed and gullied by the same causes.

Again, the *particular time* in the fall at which plowing should be done, is an important point, and this must be determined by the objects which it is sought to attain. If the land is in grass, and it is wished to have the sward rotted by the following spring, the plowing should be done early in autumn, in order that the warm weather may bring on decomposition before winter. If plowing is deferred till the commencement of cold weather, but little change will take place in the sward before spring—so little that if cross-plowed, much of the grass will be found alive, and by being again brought to the surface, will grow and obstruct the growth of the crop which is put on the land, or increase the expense of cultivation.

On clayey soils, there is still another disadvantage in connection with late plowing, if it is done in the ordinary way. The soil is liable to be made into mortar and run together by rains, so that by seeding-time it becomes closely packed. It is difficult after this to bring the soil into the friable condition required to fit it for a crop, without plowing again, and that operation would bring back the undecomposed sod, to which, as just remarked, there are weighty objections.

So far as regards the improvement of the *texture* of soils, it may be assumed that those of a clayey and tenacious nature, and those only, may be benefited by late plowing. The improvement in such cases results from the division of their particles by the action of frost; by this their cohesion is overcome, and access given to the air, which dispels acids injurious to vegetation—thus rendering soluble and available to plants, the food which was before inert. But these desirable results can only be obtained by the soil being frozen when it is in a comparatively dry state. If it is wet at the time it is frozen, and remains so till it is thawed and settled, no pulverizing effect is produced, the favorable agency of the air is excluded, and the soil remains in an ungenial state.

To obtain these advantages of frost, the soil should be thrown into narrow ridges, by turning two furrows together, in the manner called back-furrows. The furrows should be made in the direction best calculated to drain off the water, without allowing it to form large streams, as these might gully the soil. This kind of plowing can be done to the best advantage on land that has been under cultivation one season, or more. It can be done with sward-ground, but, as before stated, the grass will come to the surface when it is cross-plowed in spring, requiring much labor to destroy it. If, however, sward-ground were plowed in August or the first of September, the sward would become dead and so far decomposed by November, that it might be cross-plowed in ridges with advantage. The later in the season the ridging can be done, the better, as the soil will be more fully exposed to the action of frost, before the ridges have been washed down with rains. The ridges should be made as high and narrow as practicable, in order that the frost and air may act thoroughly on the soil.

There is no operation which tends so much to produce friability in tenacious soils, or which so much developes their fertility, and insures the growth of crops, as plowing them late in the fall, in the manner above described. But to derive the full advantages of the operation, the soil should be properly under-drained. This will admit the descent of water so readily that the soil will remain permeable and open; but if the water remains long in the soil, the beneficial effects of pulverization will be comparatively temporary. The *soaking* of the soil will reduce it to its former heavy condition.

Other advantages are claimed for fall plowing, which do not relate to the improvement of the soil; such as that the destruction of worms, in some instances the killing of noxious plants and in other instances the convenience of doing the work at a season when the farmer has more leisure, and his team is, perhaps, in a better condition to labor, and may be kept at less expense than in spring.

As to the destruction of insects, such accurate experiments have not, so far as we know, been made, as would show the advantages of fall plowing in this respect. It may be remarked, however, that worms prepare themselves for winter by descending into the earth, more or less; and if, after they have fixed themselves in their position, they are turned up to the air, while the weather is so cold as to prevent their motion, it is reasonable to suppose that before spring many of them would be killed. It is thought that this has been favorable to the destruction of wire-worms, which are generally most prevalent on deep soils, and those of a mucky character, though they sometimes do much injury on clays.

Witch grass, a couch grass, (*Triticum repens*,) may be to some extent destroyed by plowing just at the setting in of winter. Those who have had experience with this pernicious grass, know how great a nuisance it is, and how difficult to eradicate. To destroy it by frost, the ground should be plowed *deeply* in ridges. The plow should run, if practicable, to the bottom of the roots, that they may all be, as much as possible, exposed to the air and frost. The rains will wash out much of the earth, especially in sandy soils, leaving the roots bare, and the alternate freezing and thawing in this situation, will deprive many of them of vitality.

Letters from Prof. Norton—No. 11.

Notes of a Tour in Central New-York.

Analytical Laboratory, Yale College,
New-Haven, Conn., October 8th, 1850.

Messrs. Editors—Having been both interested and instructed, by a recent visit to some of the central districts of your State, I propose to give you in this, and perhaps one or two succeeding letters, some of my impressions relative to the present agricultural condition, and the capabilities, of that region; together with such suggestions on points where improvements seemed desirable, as may properly be made in your columns.

The occasion of my visit, was a series of invitations to address the agricultural societies of the counties of Wayne, Seneca and Ontario, at their annual fairs, upon some subjects connected with scientific agriculture. These fairs coming near together, in point of time, I was able to accomplish the whole in less than two weeks.

Commencing regularly at the beginning of my tour, my first visit was to Wayne county. This county has within two years, adopted the plan of dividing its fairs. The county is long and narrow, and a single fair at one end is not attended largely by people from the other end; even from both ends to the middle, it is something of a journey in the absence of railways and steamboats. Owing to these circumstances the effect of the new system has been excellent. The same officers have the direction of affairs at both places, and theirs is the only extra duty connected with this improvement, for such it has been found to be. Now that the fair is brought into their immediate neighborhood, people begin to take an interest who never thought of such a thing before; and moreover the rivalry which has sprung up between the different ends of the county has stimulated each section to a great increase of exertion. I was assured that either fair is now better than the central fair used to be, and that more money is raised at each one now than was formerly obtained from the whole county. Such facts are encouraging, and point out the wisdom of bringing these exhibitions near to the doors of the farmers in order to draw them out; when once engaged, they are commonly very ready to keep on.

I was present at both fairs in this county, the first being held at Clyde. Here and at the other places which were visited, I was under great obligations to the officers and members of the societies, who drove me about the county in various directions to a great extent, and who also aided in every way the obtaining of information.

From Clyde I made a day's circuit of nearly 40 miles, in company with Mr. Joseph Watson, the excellent president of the Wayne county society. Our journey was through a section of the county which is for the most part new; where in many places the stumps show that the hand of man has but recently let in the light of day to a virgin soil. Here as in most other parts of this central region, plank roads are stretching in every direction, and are affording very great facilities in access to markets and in the ease of transportation; thus involving a consequent saving of expense, to all who have occasion to use them. This must be particularly apparent in winter and spring, whenever the roads are bad.

The geological features of Wayne county are various, it including no less than four of the important groups into which geologists have divided the State. We have the Onondaga salt group, the Niagara group, the Clinton group, and finally on the shores of lake Ontario, the Medina sandstone These groups include a great variety of rocks, limestone, sandstone, and shales or slates; but from what I saw of the surface, it did not seem to me that there was so great a variety in the character of the soil as might have been expected. This I conceive, is to be explained by the fact, that the surface is almost every where composed of drift or or transported materials, usually finely divided, but often in the form of coarse gravel; occasionally there is a sprinkling of boulders. I saw no land that we should consider unpleasantly stony in New England. These soils then, seem mostly to be deposits of a current which has at some long past period of the world's history, swept from the northward, and mingled the ruins of the various strata over which it has passed.

These strata fortunately for the farmers of Wayne county, were of varied character as above, and in their variety, afforded when mixed the material for a fertile soil. Had the granite rocks which lie to the north of Connecticut and Massachusetts, overwhelmed this region with a flood of quartz, feldspar, and micaceous boulders, such as reward the toils of the farmers in many parts of those States, Wayne would be in a condition very far different from that which she at present enjoys. Her farmers fairly shudder at the sight of fields, which would be thought in Litchfield or Berkshire counties, to have only about enough stones on them to keep the land comfortable and warm.

The eastern end of Wayne county being comparatively much newer than the western, its appearance is consequently less finished; the fields are not as a general thing so much cleared, and the farm buildings are less comfortable and extensive. There are most laudable and encouraging exceptions to this remark, on many farms that I noticed. The land in this section, is generally of a rather light loamy character, easy to cultivate, and all fertile where it has not been run down by cropping without any returns. Except on such farms the wheat crop is good, but still, so far as I could learn, is probably as a whole not quite up to what it was ten years ago. On many farms the yield is increasing as it ought to do, but on many others it is decreasing under the influence of poor cultivation.

I am constrained to observe that this was the most *weedy* district that I visited. The uncommonly wet season which we have had, offers an excuse, but this can not be allowed weight in comparison with neighboring counties where the farmers have labored under equal disadvantages, and where the appearance of things is very different. The road sides are in many places perfect nurseries of weeds; they are allowed to ripen and shed their seed in every direction, over the neighboring fields. The Canada thistle I noticed going to seed in great numbers. The crop of Indian corn in all this region, is remarkably heavy this year; one hardly sees a poor field of it in a long days ride. In this end of Wayne county I was sorry to see that great numbers of the farmers pursued the practice of topping their corn, to which a large portion of our New England farmers so pertinaciously adhere. In the western end of Wayne, in Sèneca, and in so much of Ontario as I saw, the opposite practice of cutting at the bottom is almost universal. There is no question whatever, but this is the better plan; it has been well ascertained, that the grain is of superior quality for being cut early and for ripening in the stack, and that the green stalks when thus dried, and afterwards cut up, are equal to hay when fed to cattle. The advantage then is most evidently on the side of cutting at the bottom, both as regards fodder and grain; we may even go still farther, and say according to the testimony of those who have tried both ways, that the labor required is less.

The farm of Col. Briggs, which according to my recollection is in the town of Galen, and which took the first premium in the east end of the county this year, is well worthy of attention: the owner was not at home, but we drove through the centre of the farm and saw many evidences of enterprise and skill. The fields are all large, none less than 50 acres, and some I should think much more. This is excellent economy, to have the fields as large as is consistent with the size of the farm; it saves a great amount of money in fencing, and the work can be carried on more economically on a large scale, as there is a better scope for the introduction of machinery. This principle Col. Briggs evidently understands, as we saw that his wheat was all put in with the drill, and heard that he adopted all the modern inprovements in the way of implements and machinery, as corn shellers, cultivators, reapers, &c.

His farming is all on an extensive plan; we saw at least 150 acres of growing wheat, and his crops are said to be uniformly good. The land on this farm looks as if it was cultivated on an improving system. I had not means of ascertaining how much stock is kept, or what manures are applied, neither of inquiring as to the rotation followed. The stone walls which have been extensively built, are an innovation upon the old crooked fences which struck my eye very agreeably, and imparted an air of general neatness. I fear, however, that the stones are rather small for a permanent wall. This farm on the whole presents a pleasing example of industry and skill; having said so much in its praise, I may venture to suggest, that any previous remarks as to weeds, apply here as well as in other cases; they were rather too abundant along the fences, and by the road side.

I was sorry not to have an opportunity to visit the farm of Mr. Streeter, in this part of the county; his show of stock at the fair was fine, and I heard of him on all sides as a most enterprising and successful farmer. The farm of Mr. Jos. Watson, President of the Society, has before been publicly described, and I will therefore only say that it will well repay a visit, being for general neatness and cleanliness from weeds, in advance of any farm that I saw in this section. The machinery in his barn is so ingeniously arranged, that it does a great amount of work with little trouble, and by the power of only two horses, moving with much ease to themselves. Much of his work is done by one horse.

I was particularly pleased by the appearance of his clean corn-field, and by four acres of drained swamp, which was formerly impassible to animals. It is now by means of a few drains, firm and dry, and this year is under crop for the first time with broom corn. The growth is gigantic, much of it being fully 13 feet. Under this swamp lies a bed of marl, an analysis of which is now being made in my laboratory. Yours truly, JOHN P. NORTON.

The Horticultural Department.

Village Door Yards.

It is often a cause of regret that so very few of our ornamental grounds approach in finish the highly kept English lawns. Henry Colman, speaking of the latter, says, "Nothing of the kind can be more beautiful; and I never before knew the force of that striking expression of the prince of poets, Milton, of 'walking on the smooth shaven lawn;' for it seems to be cut with a razor rather than with a scythe; and after a gentle shower, it really appears as if the field had had its face washed, and its hair combed with a fine tooth comb."

The truth is, it is hardly desirable to introduce into this country the expense of maintaining such high and costly finish to extensive artificial landscapes. But there is one place where it may very easily be done, with admirable effect and little cost; in the limited front grounds of the village or suburban dwelling. A half hour, spent every morning, before breakfast, by the proprietor himself, would keep the tenth or twentieth of an acre in the highest degree of neatness.

At the present season, when many are about to lay out and plant their grounds, the accompanying plans may afford some useful suggestions. The first, (Fig. 1,) is intended to embrace about the seventh part of an acre, and to avoid the too frequent and stiff appearance of a straight walk directly from the front gate to the door. It is chiefly grass lawn; the evergreen trees, near the outer part or boundary, are distinguished by being more darkly shaded; and if desired, they may be made to shut out neighboring buildings or objects which ought to be concealed. In so small a space only shrubs or small trees can with propriety be introduced, the larger of which should be near the boundary. The Norway fir, the Balsam, the Hemlock and other species of the finest evergreens, which usually attain the hight of large trees, may be kept small by shortening in their branches; shearing their surface makes them too stiff and formal. All evergreens and particularly the hemlock and arbor

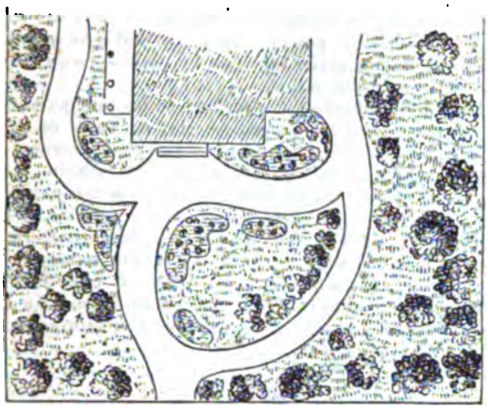


Fig. 1.

vitæs, will bear pruning into any shape or dimensions.

The ornamental effect of the grounds is much increased by the introduction of a few flower beds, cut into the turf, as shown in the figures. At the same time, the bad appearance which is some times given by cutting up the whole front yard into beds for flowers, is wholly avoided. No arrangement of grounds should ever be made which dispenses with turf in immediate connexion with the dwelling.

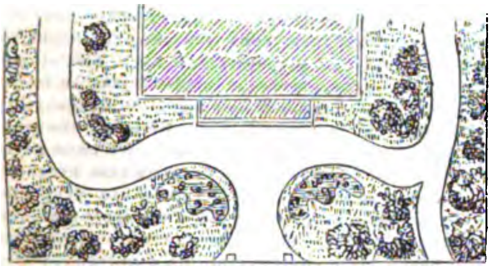


Fig. 2.

Fig. 2 is intended as a plan for a more limited space. A small inconspicuous gate at the right, opens a direct passage to the kitchen. In both instances, the kitchen garden, if any, occupies the ground back of the house.

A long chapter might be given relative to the selection and suitable disposition of the shrubs, and the flowering plants for the beds. This must be left mainly to the knowledge and taste of the proprietor or of the person he employs. It may be however observed, that such shrubs should be chosen as will appear well throughout the season, whether in blossom or not; and that if possible, the flowers for the beds should form a constant succession throughout the season. By commencing with the spring flowering bulbs, following those with herbaceous perennials, and closing with the finest annuals, a good succession may be kept up; and if in addition to these, a supply of the most brilliant green-house plants can be procured, the result will be highly satisfactory. It would be desirable in any case, to raise the plants in the back garden, until near the period of flowering, when they should be removed, roots, earth, and all, to the beds. Green-house plants in pots, are very easily and safely set out; and an equal advantage is derived by growing the others in pots for this purpose.

A very few words as to the treatment of the grass: before it is sown the soil should be trenched two or three feet deep if possible, and made rich with manure; this will keep up a fresh green color through the dryest summer. The seed may be sown early in spring; and if at the rate of two or three bushels per acre, it will in a very few weeks form a beautiful carpet of green. It must then be mowed with a lawn scythe, and if the mowing is afterwards continued and repeated as often as *once a week*, not a day less frequent, or as soon as a cut one inch high can be taken off with the scythe, it will soon rival in smoothness and softness the surface of velvet itself.

New-York Agricultural Transactions.

The ninth volume of the Transactions of the New-York State Agricultural Society, for a copy of which the writer is indebted to B. P. Johnson, corresponding Secretary, contains as usual a great deal of matter of the highest value. The lectures of Prof. Johnston, last winter at Albany, on the application of science to agriculture, occupying 107 pages; and Prof. Norton's Prize Essay on agricultural chemistry and geology, are neither of them productions of any ephemeral or ordinary character, and are rendered more valuable by the well known freedom of their authors from the chimeras which have bewildered some other eminent modern chemists. But we must pass all these, and notice at present more particularly some of the portions of the volume relating to horticultural subjects.

Analysis of the Apple.—An interesting paper on the analysis of the *fruit of the apple*, by Dr. Salisbury, furnishes some facts worthy of notice. Owing to the lateness of the season, (in spring,) before the analysis was commenced, the following sorts only were examined, viz: Swaar, Kilham Hill, Rhode Island Greening, English Russet, Roxbury Russet, and Talman Sweeting. From the numerous tables of results, the following facts are drawn:

The English russet contains less water and more dry matter than any of the other sorts. This is doubtless the reason why this variety is so hard to freeze. The Talman sweeting contains more, the Greening still more, and the Kilham Hill most of all; ranging in all these from 79 to 86 per cent. A fresh potato contains about as much water as the russet. These results show the reason that apples when manufactured into cider, produce nearly their own bulk of juice, a fact which has often puzzled many who merely regarded the solid nature of the fruit.

A striking difference in the composition of the apple and potato, is the entire absence of starch in the former, while in the latter it constitutes about one half of the solid part. The apple, according to this analysis, is rather superior to the potato in fat producing qualities, and which accords with the experience of some accurate farmers. The apple contains about twice as much of the compounds of nitrogen as the potato.

The russets were found to contain a larger portion of tannic and gallic acids than other sorts. These acids impart astringency, and are indicated by the black color given to a knife of iron or steel used in cutting this fruit. The apple is rich in phosporic and sulphuric acids, and potash and soda. Hence we may infer that bone dust, ashes, salt and plaster, would be likely to prove useful as portions of the manure applied to bearing trees, in addition to what is already contained in yard manure.

Keeping Grapes in Winter.—At the agricultural discussions, —— Marks, of Greene county, stated that "he had kept Isabella grapes in kiln-dried hemlock saw-dust till April, and they came out well. They were kept in a cool room where there was no frost. The past year, he used mahogany saw dust. Pine saw dust does not answer; the grapes will taste of it. Has found the Catawba grape to keep best when picked just before it is dead ripe." This method of using kiln-dried sawdust, is an old, familiar, and excellent one. Covering the jars with a cover, sealed with wax or tallow is adopted by some to exclude external moisture from the saw dust.

Grafting the Grape.—An experiment, proving very successful, was related in grafting the Isabella into the roots of wild varieties. Pieces of root a foot and a half long are cleft grafted in the common way, and the root is then buried in the soil so as to have the junction fairly below the surface. They grow well and have borne the season they were grafted.

Securing crops of Peaches.—A peach orchard at the foot of Catskill mountains, where the thermometer sometimes sinks to 16° below zero, has with a single exception, borne fruit for many years, by the following treatment. After the ground is firmly frozen in the fall, litter is placed round the trees four to six inches thick and trodden down hard. This prevents the buds from starting prematurely by keeping the ground frozen, and being kept back, they escape the frost.

List of Fruits.—The following varieties are added to the former lists by the fruit committee, as worthy of general cultivation:—

Apples—Wine apple, Dominie and Peck's Pleasant.

Pears—Doyenne d'Ete, Andrews, Flemish Beauty and Urbaniste.

Plums—Madison.

Cherries—Knight's Early Black, Black Eagle, Downer's Late and Graffion.

Peaches—Oldmixon Freestone, Bergen's Yellow, and Crawford's Late.

Gooseberries—Woodward's Whitesmith, Crown Bob, and Green Walnut.

Currants—Knight's Sweet Red, White Grape, and May's Victoria.

Raspberries—Fastolff, Franconia, White Antwerp.

A large portion of these varieties are represented by good figures, but one or two of the apples we should hardly have recognized. The Dominie (which by the way but barely deserves the company in which it is here placed,) is not more than one quarter the size of many specimens often seen; and Peck's Pleasant is not larger than the very smallest specimens, while it is furnished with an unusually long stem. The truth is, this fine early winter variety is often one of the largest apples, and has sometimes attained nearly a pound in weight. The distinction between the deep cavity in Knight's Early Black Cherry, and the very shallow cavity in the Black Eagle, is not well shown, although constituting a striking point of difference in these similar varieties. These are however but few and small defects, among a great deal that is accurate and excellent.

Osage Orange Hedges—Osage Weevil.

It seems to be established that these hedges will succeed well wherever the climate will admit the cultivation of the peach. Their strength, vigor and density is such, when well made, that no animal will try to pass them; and so sharp and numerous are their thorns, that they must form a perfect barrier against ordinary fruit stealers.

Prof. Turner, of Illinois college, in a communication to the Prairie Farmer, says he has now about *five miles* of this hedge on his farm, and it has already doubled the price of his land, that is he is now offered twice as much for it as he asked two years ago and could not sell it.

He thinks the chief cause that so large a portion of the seed fail to grow, is the ravages of the "Osage Weevil," a minute and almost microscopic insect, which feeds on the tip of the radicle. A year ago he lost six bushels of seed from this cause, and last spring he lost above thirty bushels, all well got out and cured in Texas. Sometimes, he states, the seed will push their sprouts nearly an inch, after they are incurably injured. Seed has been pronounced by different persons as "very fine" after he had found "by microscopic examination that it was not worth a cent."

Seasonable Hints.

Fruit in Cellars.—A great deal of winter fruit suffers early decay in consequence of a deficiency of ventilation, especially during autumn and after the fruit is deposited. Another cause of decay is the improper location of the shelves or bins, which are placed against or around the walls. By this inconvenient arrangement, the assorting of decayed specimens must be done all from one side, and the shelves must hence be very narrow, or the operator must stretch himself in a most irksome horizontal position. The circulation of the air is at the same time greatly impeded by the want of space next the walls. To avoid these evils, the shelves should be in the center with a passage all round. This allows circulation of air, and the shelves may be twice the width with the same convenience in assorting or picking. If suspended from the joists above on stiff bars, rats cannot reach them. We have never succeeded so well by any other than this arrangement. It is said that the Germans are very successful in the ventilation of their cellars, by a communication with the principal chimney, the heated air in which necessarily maintains a current, which sweeps out the noxious and stagnant gases from the vegetable and other contents.

Keeping Beets and Turneps for the Table.—The epidermis of the beet and turnep root, unlike that of the potato, admits the rapid escape of moisture, and hence if exposed to dry air for a few days, they begin to wilt and lose their freshness. Buried in heaps out of doors, they keep well, but are hard to get at in winter. Good substitutes have been devised, by lining and covering the boxes which contain them in the cellar, with flakes of turf; or by burying them in barrels with slightly moist clean sand. A more convenient way, however, is to substitute *slightly* moist peat for the sand, which is very much lighter than sand, and more easily applied and removed.

Unheaded Cabbages.—There are often many of these when the crop is gathered at the approach of winter, commonly thrown away as useless. They may be rendered fine for spring use by transplanting them in a close double row, and then covering them with boards or slabs like the steep roof of a house, with an additional coating of a few inches of earth. They should then be properly ventilated. By next spring a large portion of them will be found well headed and delicately blanched.

Repelling mice from fruit trees.—We still often hear of the death of trees by mice, girdling. Prevention from this disaster is one of the easiest and most certain things in the world, consisting simply in throwing up a little circular bank or mound of earth round the trunk of each tree, nine or ten inches high. One man will do hundreds in a day, and we have never known a single instance out of thousands of cases, where it has failed.

Protecting tender Plants and Shrubs.—There is one principle which should not be forgotten, whatever be the nature of the covering applied to tender plants, more especially to the woody portions or parts above ground. This is, that the *exclusion of moisture* is an important object without excluding air. Ligatures are sometimes left on inserted buds for protection, and more usually destroy the buds by retaining water like a sponge. Closely wrapped straw operates in the same way, as well as by excluding air, which is often important. Roots and stems like those of the grape, which will bear a greater degree of moisture, are partial exceptions. Roots, even, are often destroyed when in a too moist soil; and their is no doubt that many tender herbaceous perennials would survive the rigors of our winters, if in earth with a dry bottom, and sheltered from rain.

Transplanting Trees.

Eds. Cultivator—At the end of June last, I was forced to remove a quince bush, which stood just on the spot where I was to make an addition to my house. The tree was full of fruit.

I had read, I believe, in your valuable Cultivator, that a gentleman, removing rose bushes in the summer, had covered them with a blanket, and every evening put water on the leaves. I tried the same with my quince bush. The tree being nine feet high, was removed the 25th of June. I was forced to employ two horses to pull it out of the ground, and to bring it on the spot, where it was to be set in the soil. There I had dug a hole of seven feet diameter, and put in it a dozen pails of water. Though I tried to preserve on the roots as much earth as possible, the greatest part of it was lost in the transit.

The tree was set in the ground, the fruit all taken off, the ends of the limbs and twigs cut and shortened, and the whole carefully covered with three blankets. In the first week I sprinkled the leaves with water morning and evening; afterwards I did it only occasionally. Having removed the blankets in the beginning of September, I had the pleasure to see on all the limbs new twigs and new leaves, and the tree looking healthy and flourishing. D. B. K. *Washington Valley, N. J., Sept. 16th,* 1850.

Peach Trees.

William Stone, of Natick, Mass., gives the officers of the Middlesex Agricultural Society, a statement in regard to his culture of an orchard of one thousand peach trees. The trees have been set three years and are represented as "in a bearing state." The orchard is on a hill, one hundred feet above the general level of the surrounding plain; the soil a yellow loam, abounding in loose boulders of granite. Stones enough were dug from the ground to make a wall round three acres, on which the orchard stands. After several plowings, from 1843 to 1845, it was marked out in squares of twelve feet, and the peach trees set at the crossings. He prunes the trees of all the dry limbs, and all such as interfere with each other, or hinder the growth of the tree. He does not cultivate the ground among the trees, but covers the whole surface with straw or some kind of litter. He says, "Well covered in this way, the straw will last two years, and the trees will have less worms and flourish better than to cover the land with manure of any kind. I place about a peck of hard coal or wood ashes, at the root of every tree once a year, and it has not failed to keep away the borer. The reasons I give in favor of straw and hay as preferable to compost manure are, it saves labor, is cheaper, it prevents the drouth from penetrating as it would without it, and in case the trees stand on a side-hill it keeps the rains from washing the soil, and when the fruit drops it keeps it clean. I have tried this course for twelve years and am fully satisfied it is the best method."

Yellows.—Another competitor for the premium offered on peach trees by the above society, states that he has used urine with good effect, as a remedy for the *yellows.* He put about a gallon round each tree during the autumn and winter. He says he tried one sickly tree earlier in the season with manifest advantage.

Several competitors speak of having fruit from those peach trees only, which stood on quite high ground, the present season.

Cracking of the Doyenne Pear.

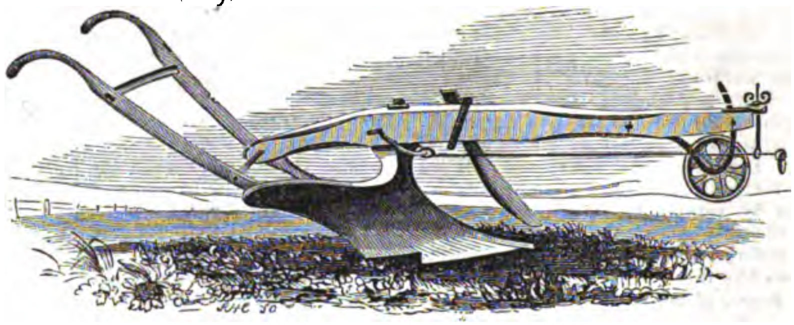
It is well known that in many of the eastern portions of the United States, the white Doyenne pear is rendered worthless by the cracking of the fruit. This has been ascribed by A. J. Downing and others to diseased action, consequent on the exhaustion of the soil by the continued growth of the tree on the same spot of ground. The following interesting fact may serve to add to the materials for determining this question:

A young and thifty tree of this vareity, standing on a gravelly loam, bore its second crop of fruit the present year. When the pears were two-thirds grown, the leaves were observed to be affected with the black spots which characterise the leaf blight, and always precede the premature falling of the leaf. At the same period, similar black spots began to cover the surface of the young pears, gradually extending on many of them till they cracked, shrivelled, and fell from the tree. Others, side by side with them, escaped this disaster, and continued fine and fair specimens until ripe.

The region of country where this young tree stands, has been long celebrated for the perfection of this variety of the pear, nothing of the kind ever having been known before within two hundred miles. Within a mile from this locality, and on a piece of ground strikingly similar to all external appearance, is another white Doyenne tree, twenty or thirty years old, the crop of which has always been perfectly smooth and fair, and has for some years past sold for twenty to thirty dollars per annum. It stands in a grassy yard, and receives no manure, solid nor liquid, nor any cultivation.

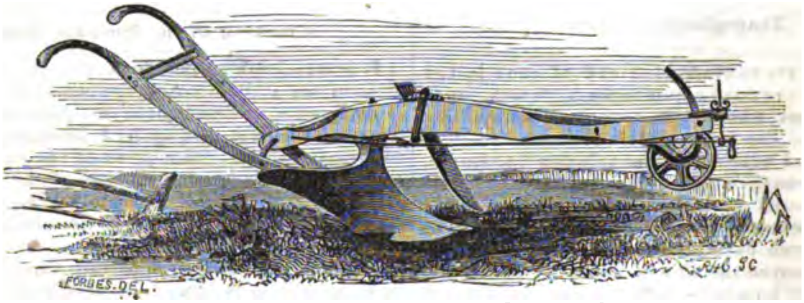
New Currants.—S. P. Fowler, of Danvers, Mass., remarks in the N. E. Farmer, that Knight's Sweet Red "may perhaps by some persons be considered a little less acid than the White Dutch, while others would not admit it. I should not cultivate it for its supposed comparative sweetness." The Champagne, he says, is not a great bearer, and the fruit, though beautiful, is very acid, most persons leaving it to be eaten by birds. Knight's Early Red he has not found to be much earlier than the other varieties, not being worth cultivating for this characteristic, and possessing no other. The Red and White Dutch are good, and are by some persons thought to be the best." We believe these conclusions have been arrived at by most other cultivators of experience.

NEW-YORK STATE PREMIUM PLOWS.



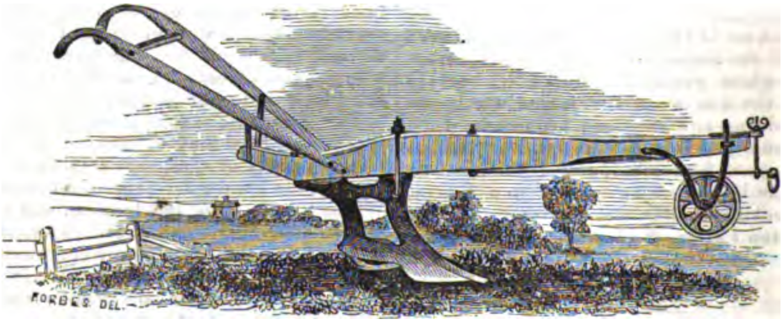
Prouty & Mears' Centre Draft, No. 25:

Which received the first premium for sandy soil.



Prouty & Mears' Centre Draft, No. 30:

Which received the first premium for stiff soils



Prouty & Mears' Subsoil Plow, C:

Which received the first premium.

REPORT OF TRIAL OF PLOWS.

In our last we gave cuts of four of the plows which received premiums at the trial by the New-York State Agricultural Society, in June last. Herewith we give cuts of the other premium plows, except the one which received the second premium for sandy soil, which has not yet been received. The report appears to be received with general approbation. John Delafield, Esq., in a late letter, observes: "The plow report is admirable, and seems to me a true and sure standard for future trials. Our agricultural artisans have long exhibited a knowledge of the principles of force and motion, but in the plow they have not reached, perfectly, their application for our most economical use. The present report will bring them in close contact with our farm wants, and their skill will, assuredly, ere long, give us all we desire."

The Farmer's Note-Book.

Farming in Indiana.

Eds. Cultivator—There are, perhaps, but few of your readers who are, to any extent, familiar with farming operations in this region of country; and I propose, with your permission, to give them a brief account thereof. This county, (Wayne,) is one of the first in the State in point of population and production as well as in agricultural improvements. It comprises in its eastern portion an undulating beech clay soil, resting upon blue limestone, which is accessible for quarrying in many places, and its western portions include some rich first and second bottom lands unsurpassed in fertility. Its first settlers were from N. Carolina and Pennsylvania principally, with a "sprinkling" of emigrants from most of the south eastern States. Corn has been *the* crop as long as it could be coaxed to grow, succeeded by wheat in later years. We have, perhaps, some of the finest exemplifications of the "*skinning system*" extant—many of the original settlers having cropped with corn after corn until it was somewhat probematical whether the yield would equal the seed, and finally sold out at small prices and moved west, there to run another round of "*skinning*" and starving. This is true only of the clay lands, the "bottoms" like the lamp of Alladin, still bringing forth at every rubbing, very good crops. At this time, but a small portion of clay lands remain in first hands, but are now in the possession of those who are endeavoring, and with more or less success, to restore them to a state of comparative productiveness. We can now number two or three who use the sub-soil plough, in connection with barn yard manure, leached ashes, charcoal, &c., making these same exhausted lands produce 25 to 35 bu. of wheat per acre, and 75 to 100 bu. corn. Others again are ploughing 3 horses abreast 8 to 12 inches deep with the best success, in many cases nearly doubling the crops of the three inch style of ploughing, while hundreds of others are watching these results, and, like king Agrippa, are "*almost persuaded*" to be (Christian) farmers.

The want of good agricultural implements has been, and is severely felt here, although no part of the country would *pay* better than this for their introduction. Messrs. Beard and Sinex of Richmond, are now manufacturing the "Empire" ploughs with wrought steel mould boards, made with bar shares and wrought iron standards, which are superseding all other ploughs now in use here. We stand much in need of some good drilling machines for wheat, gang plows, cheap and effective straw and stalk cutters—in short, of farming tools of the best descriptions generally. Any of your eastern manufacturers who would like to introduce their articles into this State, can by addressing me, privately, receive such information as will enable them to do so advantageously. Especially are we in want of the most improved stock of *Cattle*, *Horses*, *Hogs* and *Sheep*. There is a growing interest in these matters here at this time, and some of your eastern breeders would consult their interest by sending some of their surplus stock into this State. I would very willingly undertake to act as agent for the sale or service of stock of any of the improved kinds which might be sent here and any of your readers wishing to do so can write to me on the subject. We are expecting to have a Morgan horse here from Mr. W. H. Ladd of Richmond, Ohio.

Our season has been one of unprecedented drought: We had no rain from corn planting until 19th of June, at which time rain fell moderately; from that time until the present, we have not had to exceed *half an inch of rain*. Our wheat crop was one of the finest ever raised. Oats mostly very short. Hay, hardly half a crop. Barley a failure. Corn, a light crop, (the best were ploughed the deepest.) Potatoes a complete and total failure—hundreds of vines without any appearance of a potato about the roots. Early apples pretty fair; late ones small and backward in consequence of the drought. Although about seeding time, very little ground is or will be ploughed for want of rain. It is really discouraging, many springs and wells having nearly or quite failed. W. T. Dennis. *Richmond; Ia., Sept. 1st 1850.*

Minerals in Washington County, N. Y.

Dr. Fitch, in his survey of this county, observes that about 118,000 acres of its surface is underlaid by granite rock, which belongs to the same general range, as the rock which is so prominent in the counties of Warren and Essex. It appears that this rock contains valuable minerals. Dr. F. speaks of them as follows:—

Iron Ore.—Two valuable minerals are being furnished to the world at the present day, by this rock, from within the bounds of this county, viz: iron ore and black lead. Beds of iron ore have been opened, both at Mount Defiance and in the north part of Dresden, and there is little doubt that they occur in all parts of this range from Ticonderoga to Fort Ann; but it is only in the last of these towns, in the neighborhood of Mount Hope furnace that the mines are at present worked to any extent. This is the only smelting or high furnace within the county, and the company to which it belongs is also the proprietor of most of the mines that are as yet known in the neighborhood. The furnace is situated two miles up Furnace brook from the head of south bay, and about a mile from Furnace pond. It gives employment to 150 or 200 men and 50 teams, and is making some 1,500 tuns pig iron annually. About a third of the ore is obtained from down Lake Champlain and the remainder from different ore-beds in the vicinity, this admixture forming a better quality of iron, I am told, than either ore does separately.

Graphite.—Graphite, plumbago or black lead, (which is lead only in name, the mineral being composed of carbon with a slight admixture of iron commonly, but none of lead,) the material from which pencil-points are manufactured and which is in extensive use for polishing stoves, diminishing the friction of wheel-axles, &c., is disseminated through most parts of this rock, and occurs in abundance in the north part of Putnam, from which town is obtained a portion of "Ticonderoga black lead," which has superseded most of the other kinds of black lead in this section of the state. It is at present afforded at fourteen dollars per hundred weight. Twenty-two thousand pounds of this mineral passed the port of Whitehall in 1834, mostly from the vicinity of Ticonderoga, and the quantity has greatly increased since that date. Alexander Robertson, Esq., informs me that no exploration has been made to ascertain how abundant this article is within the town of Putnam—that one of the men engaged in this business at Ticonderoga comes with his wagon to the north-west part of Putnam, digs what he wants out of the rocks, carries it home, and when this is sold out he comes again. Every housewife will hope that the supply may prove to be inexhaustible, so superior is it in its crude, native state, to the old "British Lustre," or any of the other polishing substances known.

Duties on Wool.

Eds. Cultivator—As a wool grower, I feel to express a sense ef gratitude to Mr. H. C. Miriam of North Tewksbury, Mass., for his very able article upon foreign and domestic wool, published in the September number of your paper. From his sentiment, however, that because the Scotch black faced laid wool was duty free to the English carpet manufacturers, they are enabled to hold in check and defeat the prosperity of our domestic carpet manufacturers, I must take the liberty of dissenting. If that wool is grown in such immense quantities, and is so very cheap, our manufacturers can avail themselves of it as well as those of England. If it is objected that the wool for our manufacturers has to be transported across the Atlantic, it may be answered that it has also to be transported across the Atlantic in the cloth before it can affect the carpet manufacturer in this country. If it is objected that a duty of thirty per cent is imposed upon the wool in its raw state, it may be answered that a duty of thirty per cent is also imposed upon the wool when manufactured, and when it shall have been converted into cloth, which would place our manufacturers on a par with those of England as far as the wool is concerned, and would give them the advantage of thirty per cent duty imposed upon the labor and other ingredients which enter into the manufacture of those carpets.

It was the attempt to discriminate between the different kinds of wool to be applied to different objects, which produced the most mischief to the wool growers under the tariff act of 1842. I trust I may never see an attempt at such discrimination in any future act that Congress may see fit to pass upon that subject. Titrius. *Hillsdale, Sept. 7th,* 1850.

Meteorology.

Eds. Cultivator—The following observations are the results of some attention to the Meteorology of my location for the past twelve months, ending the last day of August 1850:—

The whole amount of rain, 35 9-16 inches; of snow, 59¼ inches. More rain in Oct. (6⅝ inches) than any other month; although July and August measured, respectively, 5⅝ and 5 11-16 inches. The greatest amount of rain at any one time was July 17th, (3¼ inches;) a severe storm of wind and rain from E. N. E. More snow in March (25 inches) than any other month, and the greatest depth of any one snow, was 6¾ inches. The first nipping frost of the season was Oct. 9th, and the last the 22d May.

It has been observed that the mean annual amount of rain in different parts of the world are fairly represented in the following list:—

At Paris, the mean annual amount,	20 inches.
London " .	25 "
Geneva, (Switz.) "	30 "
Boston, (U. S.) "	36 "
New Orleans, "	45 "
Havana, (Cuba) "	109 "

Our summer, that has just passed, has been quite different from its predecessor: no "parching drought" has prevailed in this section of the country; no devastating pestilence has "stalked forth at noon-day" in our midst; no frantic excitement in regard to "golden bauble," has taken away the population of our towns; on the contrary, we have had the continued luxurious growth of June, the salubrity of November, and the quiet of April, the whole summer. Our county, although reputable for its dairy products, at least, has not progressed in the ratio of an earlier period. This is owing to the facilities of agriculture elsewhere, and the peculiarly unfavorable character of our seasons for several years past. Do our seasons observe a cycle in which they are approaching a character they formerly had? Or has physical improvement so far progressed that a permanent change is impressed on our climate? The history of other countries indicates the latter. It has been observed that a country covered with timber or forests, has a temperature about 10° less than when cultivated. Evaporation is supposed to be greater, or rather, more moisture is exhaled from a given extent of forest, than is evaporated from the same extent of water. Evaporation and rain, are also sources of cold, and more abundant in countries covered with forests. Our seasons, or rather our climate, is in a transition stage, without the settled and uniform character of older countries, or even the less variableness of newer ones. The present season then, is not a proper criterion of the future; nor yet is it without some indication of more fruitful periods. D. T. Brown. *Hamptonburgh, N. Y., Sept. 19th* 1850.

Stumbling Horses.

It is a general, but very mistaken notion that the safety of a roadster depends upon his lifting his fore-feet high from the ground, whereas it all depends on the manner in which he places them down upon it. The highest goers are often the most unsafe; and there are thousands of instances of horses going *very near* the ground and never making a trip. It is, however, a well established fact, that if the form of a horse's shoulder, and the consequent position of the fore leg, enable him to put his foot to the ground *flat*, with the heel down, his lifting the foot high is not at all necessary; whereas, on the other hand, if, by any improper position of the leg, issuing out of a short, upright, ill-formed shoulder, the toe touches the ground first and as it were digs into it; no matter how high such a horse may lift his leg, in any of his paces he will be liable to stumble. *Essay on the Horse.*

Destruction of the Wire Worm.

The injury done to crops by the wire worm is often very great. It attacks the seed grain, after it is sown, and by eating out its substance, and by boring into the heart of the tender stalk, the growth is prevented. It is a hard insect to kill, being protected by a smooth, tough shell. A writer in the Mark-lane Express states that he collected several of these worms, and tried the effect of different substances applied to them. He says, "In my first experiment, I tested their tenacity for life with the most corrosive and powerful poisons. Preparations of corrosive sublimate and arsenic were used in vain. Their immersion in solutions of these poisons occasioned them no inconvenience; in fact, it appeared to give them more pleasure than pain. I then tried the effect of vitriol and aquafortis: these liquids certainly destroyed the worm, but only after a very considerable time. At length, by accident, I was induced to try liquid ammonia. The result was marvellous; in an instant these creatures, which had hitherto resisted with comparative indifference the most deadly and corrosive acids and poisons, were shrivelled up, and reduced almost to the state of a cinder. Finding that ammonia possessed this astonishing power, it then occurred to me that this agent might be employed in an extremely simple and effective way. I took a portion of the earth containing the worm, and mixed with it a small quantity of lime; to this I added a quantity of powdered sal-ammoniac; the effect of this was the decomposition of the sal-ammoniac by the lime, and the liberation of ammoniacal gas: this had precisely the result of the liquid ammonia; the worm was instantly destroyed as by an electric shock."

We do not know that this method of destroying the wire-worm, can be made practically useful; we publish it to induce a repetition of the experiment, under various forms, in the hope that some valuable results may be brought out.

Addison County (Vt.) Fair.

The Agricultural Society of this county held its exhibition at Vergennes, on the 25th of September. The county embraces the richest portion, perhaps, of that part of Vermont lying between the Green Mountains and Lake Champlain. It is a district more especially devoted to grazing, than any other branch of farming. Hence it was to be expected that the leading objects of this exhibition would be the various kinds of live stock, particularly horses, cattle and sheep. In all these classes of animals the display was highly respectable, and in *horses* it was decidedly fine. By the politeness of J. H. BARRET, Esq., secretary of the society, we are enabled to state the aggregate number of animals exhibited, excepting swine, as follows:—cattle, 196; horses, 74; sheep, 142.

Among the horses, the "Black-Hawk" stock was very conspicuous. With the exception of one breeding mare, five years old, the oldest of this stock exhibited were but four years old. None of them competed in the class of *matched* horses; in the other classes comprising twenty premiums, the progeny of Black-Hawk took *fourteen*, including the premium for the best breeding mare, best "single driving horse, (mare or gelding)," and all the first premiums excepting one. Among them were some very superior animals. Such stock as the four-year-old mares of Mr. Sherman of Vergennes, and Mr. Moore of Shoreham, the two-year-old colt of Mr. Johnson Middlebury, and the yearlings of Mr. Doane and Mr. Moore of Shoreham, and Mr. Adams of Panton, as well as others of the same family, cannot fail to be highly valued and admired.

The sheep were mostly Merinos, though there were some Saxons and some Leicesters. With the facilities for rapid and easy transportation to market, which are now open to this section by railroad, we have no doubt that the production of mutton, on the best lands, will be found profitable; and the English breeds of sheep, or some crosses from them, will be adopted to a considerable extent. Those who intend to engage in rearing this description of sheep, should endeavor to breed from the very best animals. We venture to give this hint, from the circumstance that most of the Leicesters exhibited here did not appear to be well bred.

Of the Merinos, we noticed that the fleeces of those which appeared to be generally regarded with most favor, were very heavily loaded with a sticky, adhesive gum, or yolk. On inquiring the object of producing so large a quantity of this matter, we were told that it was considered *profitable* so long as the manufacturers, or their agents, would pay for it at the same price per pound as wool. This answer somewhat surprised us, as we had supposed the manufacturers were in earnest in their efforts to purchase *clean* wool. Will some one explain? Does the manufacturer deduct from the price of the wool he buys, an equivalent for the weight of yolk which it contains? This is rather an important subject to the wool-grower; it is important that he should know on which he can make the most money,—the production of wool or the production of gum.

The cattle were mostly of large size. Many of them were descended in part from the Short-horn stock introduced by the late Gen. Barnum, of Vergennes. This stock has been crossed, more or less, with Short-horns from other herds. They are, in general, liable to the objection of having too much bone, and rather coarse flesh; though some of the animals exhibited were of good form and quality. There is no natural obstacle to the rearing of the finest cattle in this section; nowhere is grass more abundant or more nutritive; and it is only necessary that the points and quality which constitute excellence in cattle should be understood, and applied by a judicious selection of breeding animals, to rear cows and oxen here, which for the dairy, the stall, or the yoke, might challenge comparison with any in the world.

We noticed several full-blood short-horns. A bull and several cows, fair specimens of the breed, were exhibited by Charles Smith, Esq., of Bristol, the president of the society. A bull shown by R. T. Robinson, of Ferrisburgh, bred by Mr. Vail, of Troy, is a well formed and thrifty animal. There were but few Devons. Mr. Sanford, of Orwell, exhibited the fine young bull which was at our State Fair. We saw no full-blood Herefords. There were several pretty good half-bloods. We were disappointed in not seeing specimens of this valuable herd here, as there are good ones owned in this section, and their thriftiness shows that they are well suited to the location. The only full-blood Ayrshire, was the bull (now thirteen years old) presented several years since by Mr. J. P. Cushing, of Massachusetts, to Mr. Wightman Chapman, of Middlebury. He is still spirited and active, and has sufficient vigor of constitution to render him useful for several years. He has been an animal of great value, and the section where he has been kept, has suffered great loss from his not having been properly appreciated.

We noticed that the Short-horns and Herefords were classed together—that is, competed with each other; and so of Ayrshires and Devons. We do not perceive the advantages of this system. We do not see how a fair comparison can be made between animals belonging to breeds whose characteristics are widely different. The leading qualities of the Ayrshires, for instance, are such as fit them particularly for the dairy; while those of the Devons, on the other hand, are such as adapt them particularly to labor. Hence the points of each must be judged with reference to different objects, which renders comparison impracticable.

Oxen and steers were numerous. Several of them were in high condition, for grass-fed cattle. We saw a pair of five-year-olds, exhibited as working cattle, put on the scales, which weighed upwards of 4,000 lbs. Mr. J. N. Smith, of Addison, showed a pair, six years old, of fine appearance, and in good working trim, which weighed upwards of 3,600 lbs.

The show of fruits, was highly creditable to the section, indicating that the soil and climate are well adapted to their production. We have never seen finer specimens of apples than were exhibited by Mr. Richards of Panton, Mr. Chapman of Middlebury, Mr. Burroughs of Vergennes, and Mr. Smith of Whiting. They comprehended the varieties of Baldwin, Spitzenburgh, R. I. Greening, Porter, Peck's Pleasant, Jewett's Best, Twenty-ounce, &c. There were also fine specimens of the Bartlett, Beurre Bosc, and Seckel pears, shown by Mr. Jewett and Mr. Smith. Good specimens of the Isabella, Winne, and several varieties of exotic grapes, were shown by Dr. Merrill of Middlebury, Mr. White of Vergennes, and Mr. Smith of Whiting.

"Small Potatoes" for Planting.

Eds. Cultivator—In your paper for January, 1849, I found an article, from which the following is an extract. You will re-publish the extract here, or not, as you think best. I think your readers may be benefited by having their attention turned to the subject again:

"*Eds. Cultivator*—It has long been a prevalent opinion with our farmers, that seed potatoes should be selected from the largest and best. But a gentleman of my acquaintance, the owner of a large farm in the county of Worcester, in the spring of 1847, found his stock of large potatoes completely exhausted, and from the general scarcity could not renew his supply. He then determined, from necessity, to plant his fields with small ones, varying in size from a marble to a small pullet's egg, placing two or three without cutting, in each hill. The result was an unusually fine crop, in size, quantity and quality.

In the spring of 1848, he repeated the experiment, so far as to plant alternate rows of small ones and large ones, cut into four or five pieces. I was present when he was harvesting the crop, in the early part of October, and it was evident that the produce of the small potatoes exceeded that of the larger ones. Should further experiment confirm the fact, that the small are of greater, or even of equal value for seed, it will be of some importance to farmers. M. B.

Beverly, Mass., December, 1848."

As the writer says—"It has long been a prevalent opinion with our farmers, that seed potatoes should be selected from the largest and best." But who has before made a fair experiment to ascertain the facts? Since reading what your correspondent published, my attention has been turned to the subject, and held to it, by my observation and experience in cultivating the sweet potato. It is the common practice, as far as my observation extends, to save and use the smaller of the sweet potatoes for planting. And from five years' experience and observation I have obtained no evidence that the practice causes deterioration, as to size or quality.

During the past season I have made an experiment with other potatoes, using the kind, or variety, called the Neshannock, or Mercer. Side by side, on ground treated alike, and of like quality, as far as it was possible to have it, we planted large potatoes and small ones, separated from each other. Both were planted on the same day, tilled on the same days, and harvested on the same day. The result is, quite as large an amount, and quite as good quality, from the small potatoes used in planting. Our son, M. M., in my absence, dug an equal number of hills, in parallel rows, and called on me to decide between the heaps. I decided without hesitation, as to the amount and size. His mother was then called on, and her ready decision agreed with mine. Our decision was in favor of those which he said were dug where the smaller were planted. We then went on and dug the whole. The result agreed with the appearance of the heaps first dug.

It might seem to some like exaggeration if we should say the potatoes were more and better from the small ones planted. We say that the quantity was not less. We think the proportion of small potatoes *was* less from the small potatoes planted, than from the large ones.

There is not the slightest ground for conjecture that any mistake has been made. My own eyes have been on the work, and my own hands in it, from beginning to end—with the exception of the digging of the hills in the parallel rows, by my son, as before mentioned. At the time of planting, the stakes were set, and the facts were written down. All has been done with a carefulness that leaves not a doubt.

It is proper to say here that the contrast in the size of the tubers planted was decided. I think that not more than one fourth, or at most one third, of the amount in weight, was planted where the smaller were used. Of the large, only one potato was used in a hill, the hills being about three feet apart each way. Of the smaller also only a single one was used, except with the smallest, when two were used, the hills being at the same distance with the others, about three feet apart each way.

The subject is worthy of attention. If equal quality and quantity can be produced, on equal ground, from the smaller of the tubers, it is time to have it known. Hitherto it has been thought to be otherwise. I confess that I am now looking for more general experience to confirm us in this new view. In propagating plants from seeds, I should still say, all other things being equal, let us have the largest seeds. But propagating the potato from the tuber, (or what one writer has called a sprout, and others would perhaps call a germ,) is another process. If we can obtain as good a plant from the smaller tuber as from the larger one, it is what we all need to know. I need not enumerate the advantages. They are apparent. Orson S. Murray.

Fruit Hills, Warren co., O., Sept., 1850.

The Season in New-Hampshire.

Eds. Cultivator—The season thus far, has been an extraordinary one. May was extremely wet, so that a great deal of planting had to be done in the first and second weeks of June. Whatever was planted then came up quick and grew rapidly. Haying was fairly commenced about the fifteenth of July, and from that time until the middle of August, there were but ten *good* hay days. There has been a large amount of hay ruined, but the crop was very large. A gentleman who lives about thirty miles north of here, told me the eleventh day of August, that they had then had but four days of good hay weather, and that all the low mowing land was full of water, and consequently much grass must be left uncut. Grain as a general thing is good and it was secured in good condition. Corn has ripened well. Owing to the lateness of the season a smaller and earlier kind was planted in numerous instances, and also less planted than there otherwise would have been. So that I should think the crop would be below the average. *Potatoes are badly diseased.* In all directions is heard the same general complaint. There will not be more than half a crop, and perhaps not more than a third. The *rot* is not of the same character as that which affected the potato a few years since. Then the tubers affected grew black and hard, now they turn a kind of palish red, and then grow soft. We have had much wet weather, with sudden changes, and a great deal of harsh wind. If this has not been the cause of the disease, I think it has greatly aggravated it. The potato tops began to decay about the first of September, those planted the middle of June being affected as soon as any. The disease is developed the most on wet lands; in some instances whole fields are not worth digging. Other vegetables have done well and there is a good supply of fruit. W. L. Eaton. *East Weare, N. H., October* 8, 1850.

The Farm of J. Bennett, Esq.

Eds. Cultivator—I was much gratified by a recent visit to the farm of J. Bennett, Esq., in the town of Mamakating, Sullivan co., N. Y., and having found much to admire and approve, I know nothing which I can furnish for the columns of your excellent journal, that may be as useful as an account of some of the practical operations of this intelligent, skillful, and long experienced farmer and horticulturist.

Mr. B.'s farm is situated on the east side of the Shawangunk mountain, near the top, which range passes through the county, and at an elevation of some hundred feet above the plain below; but the slopes are so gradual as to admit of easy cultivation, and are not liable to be gullied or washed by rains, and there is a most lovely view, from that portion of the farm situated on the top of the mountain, of the surrounding country. To the west the view is extended over Sullivan county to the Deleware river, a distance of 40 miles—eastward, to the highlands below Newburgh, through which flows the beautiful waters of the Hudson, at a distance of 26 miles; while beneath lies, spread out with their fertile fields and groves of woodland, the counties of Orange, a part of Ulster, Dutchess and Rockland.

The soil of Mr. B.'s farm is composed of loam mixed with the debris of slate, and is very productive in all the different kinds of grains, vegetables and grasses, and his mode of farming is to manure well and till well. And his theory is, as it should be that of every farmer, that one acre well cultivated is better than two half done, both as regards the labor and its rewards. His farm, and those in that vicinity, are celebrated for being the best dairy farms in the state, generally yielding from two to two and one half, and sometimes three firkins of butter to the cow during the season, which is attributable, in the first place, to the selection of the best breed of stock for that purpose; secondly,—to not over-stocking—only keeping so many as can be well fed; thirdly, a bountiful supply of good water, from springs which gush forth from the mountain side; and lastly, skillful and judicious management in butter making.

As a fruit grower, Mr. B. is amongst the foremost in this section of the state. He has a large apple orchard, grafted with the most approved varieties. I was shown by him, an apple tree on his farm, which is rather extraordinary in size; it measured 10 feet in circumference, at the trunk, and the branches extend each way from the body about 60 feet; it is in a vigorous condition, and produces a good crop of good quality. He also has a peach orchard of about 800 choice trees, together with an assortment of pears, plums, cherries, &c., most of which have been grafted and budded by himself. He has a mode of propagating the peach which was new to me, as perhaps it may be to most of the readers of the Cultivator, which is as follows: At the time of transplanting a peach tree in the orchard, he also plants two plum trees of less size than that of the peach, one on each side directly opposite each other and at a distance of about 6 inches from the peach, and when the three are firmly set in the earth, cuts off the plum trees at a distance of about one foot from the ground, with a sloping cut of about 3 inches in length; he then bends the plum stocks, bringing them with the sloping cut directly against that of the peach stock, at the same time getting the size of the slope cut; then removes the bark with a sharp knife from the peach tree, to suit the slope cut already made on the plum stocks. This done, the parts are brought in a close connection, and tightly bound with bass matting and waxed over with grafting wax. The tree is staked and tied to prevent the wind moving it. The time of performing the operation is at spring transplanting. I was shown some which he had treated as above described, which, on examination, I found firmly united together, and in a vigorous and healthy condition, and he is of the opinion that in case the peach worm should injure or destroy the peach tree at the root, the plum trees will act as life preservers.

Mr. B. is also very successful in grafting the grape. Instead of performing it in spring, as generally recommended, he prefers the month of November. He then takes any of our native sorts for stocks, saws them off close to the ground, and inserts them in the usual mode of cleft grafting; then covers them with earth and lets them remain until the next spring; the earth is then carefully removed, and nothing more is required to be done. R. H. Drake. *Bloomingburgh, Sullivan county, N. Y., Aug.*, 1850.

Washington County (N. Y.) Fair.

Eds. Cultivator—The tenth annual Fair and Cattle show of the Washington County Agricultural Society, was held on the 18th and 19th of September, at the village of Argyle; and notwithstanding autumn, always represented as being so lovely, did not bless these holidays of the farmer with her usual brilliant sun, still the attendance on both days was immense. The tent was finely filled with fruit, the products of the dairy, domestic manufactures, the best vegetables from the garden, the handiwork of the fairer sex in the shape of counterpanes, coverlets, &c. &c. While passing over the useful, we must not forget the ornamental, for the tent was profusely decorated by skillful hands with Flora's rich gifts. The grounds adjoining the tent, were covered with farming implements, fine vehicles and stock, which would probably compare favorably with that of any other county of the State.

The plowing match took place in the forenoon of the second day, and was entered into by several competitors with avidity. Only two varieties of plows were used, that of Eddy & Co. of Union Village, and N. C. Northup & Son of Sandy Hill, the former of which took the first premium of the Society. An interesting address was delivered on the second day, by Le Roy Mowry, Esq., of Union Village.

Altogether this surpassed in interest, all previous fairs which have been held in the county, notwithstanding the opinion was predominant that it would be the last: that there was not sufficient ambition among the farmers of Washington county to keep up the society, and that it must consequently be

numbered among the things that were. But in this show we have been happily disappointed, for the proceedings of these two days have proved far different things. They have proved that the farmers of "old Washington" begin to think it will subserve their interests to support the Society, for they are fully aware that physical labor "per se," is not the only requisite to the successful cultivation of soil, and believe that it can only be made efficacious by bringing to its aid the light of science. Farmer.
South Hartford, N. Y., Sept. 21, 1850.

New Hampshire State Agricultural Society.

We had the pleasure of attending the first exhibition of this Society, which was held at Concord on the 2d and 3d days of October. Though the Society had been but recently organised, and the State had refused its aid, a liberal list of premiums was offered, and ample preparations were made for the Fair by its indefatigable officers, who had, we are happy to be able to say, the satisfaction of seeing all their anticipations, in relation to this first exhibition, fully realised, nothwithstanding the very unfavorable state of the weather during the first day.

Most of the preparations, as well as the arrangement of the articles shown under cover, were completed on Tuesday the first. The domestic Manufactures, Factory Goods, and Fruits and Flowers, occupied the large and well finished hall over the Concord rail depot, a room admirably adapted to the purpose, and which was well filled with fabrics of factory and domestic manufacture, highly creditable to the artisans and housewives of the Granite State, the whole arranged in a tasteful and judicious manner, so as to show to the best advantage. The show of Fruits was more extensive and richer in variety than we had anticipated, and proved conclusively that with proper attention to the selection of varieties, and reasonable care in the cultivation, the citizens of this State may supply themselves with an abundance of all the choice fruits of the northern States. Col. Wilder of Dorchester, and S. Walker, Esq., of Roxbury, President of the Mass. Hort. Society, added to the interest of the exhibition, by the contribution of over one hundred varieties of pears. Another gentleman of Massachusetts, Mr. Lake of Topsfield, exhibited one hundred and thirty varieties of apples, pears, and peaches. Among the apples, were samples said to have been taken from a tree on the farm of Peregrine White, the first white child born in New England, and which tree was planted by him. They were sent by Miss Sybil White, a direct descendant, who now resides on the ancestral farm in Marshfield. The show of flowers was meagre, indicating that but little attention had been given to floriculture, or that untimely frosts had occurred. There were, however, a few very pretty bouquets and floral designs.

In a large warehouse near the depot, were placed the Butter and Cheese, Vegetables, Grains, &c. The exhibition of the products of the dairy, was small. The Cheese appeared well, and there were some samples of superior Butter, several of which were made by girls of from 14 to 18 years of age. There were also fine samples of Honey and Maple Sugar. Of Vegetables, there was a good show, and amongst them specimens of "Marrow Squashes" and "New York Red" potatoes from the farm of ex-Gov. Hill, who raises both these articles extensively, and finds them to pay handsomely. Better samples of Indian corn we have seldom seen any where, than were exhibited by Mr. Nesmith, President of the Society, Gov. Hill and Joseph Robinson of Concord, Mr. Cate of Northfield, and Mr. Burbank of Boscawen.

There was but a moderate collection of farm implements and the products of the shop, which were arranged in the car-house, adjoining the depot—among them we noticed two beautiful and substantial ox-yokes which were made by an ex-Governor of the State, Hon. John H. Steele of Peterboro', and for which he received the second prize.

The exhibition of live stock, which occupied a favorable position in a field of ten or twelve acres in the rear of the depot, was, for the first, extensive and highly creditable, especially in sheep. Superior Saxonies were exhibited by Messrs. David Buffum of Walpole, J. N. Sawyer of Salisbury, Hodgskins & Kingsbury of Walpole, and Messrs. Sibley and Barnard of Hopkinton. Merinoes by Messrs. Barker of Enfield, Melvin of Weare, Sawyer of Salisbury, Miller and Dewey of Hanover, Walker of Claremont, and others; and F. A. Wier of Walpole showed some good Cotswolds. Of Swine, there but few in the pens, and we noticed but one, a Suffolk boar, exhibited by Mr. James Wilson of Pembroke, worthy of special notice. Of Horses, there was a good display, but the rain prevented such an examination as would enable us to speak of them individually. Among the horned Cattle, the natives exceeded all others in numbers, and they showed we think, that far less pains have been taken by the farmers of New Hampshire to improve their cattle by introducing well bred foreign stock, than by the farmers of Massachusetts and Connecticut. There is evidently great room for improvement in this respect; and we were glad to see a fair show of Devons, some Durhams, and a few Ayrshires on the grounds, showing that at least some of the exhibitors were beginning to realise the necessity for improvement. Robert Elwell of Langdon, E. M. Dunbar of Warner, L. Brooks of Charlestown, David Buffum of Walpole, and S. G. Wadleigh of Meredith, were the principal exhibitors of Devons, and they had some good specimens of this favorite breed. Durhams were exhibited by Messrs. J. S. Walker and Isaac Hubbard of Claremont, C. E. Starkweather of Walpole, and some others; of Ayrshires we saw but one lot. There were some good cross bred animals. There was one team of 15 yoke of oxen, from Boscawen, among which, and the single yokes, were some fine animals. The show of poultry was quite extensive, embracing most of the fancy varieties—among them a pair of hens hatched from one egg, each minus a wing, so that they appeared when placed together, like a double hen.

A public procession was to have been formed at 2 o'clock on Wednesday afternoon, to march to the Capitol, where the address was to be delivered; but this procession was dispensed with on account of the rain. The wet, however, did not prevent the large Hall of the Capitol from being well filled; and as we looked upon this assemblage of the sturdy farmers of the Granite State, the reflection forced itself upon us that these were the men to carry forward, by their intelligence and energy, the good work which they had commenced under circumstances at first dubious but now in a high degree auspicious. On the platform with the President, were the Speaker, E. P. Prentice, Esq., President of the N. Y. State Ag. Society, Hon. Levi Woodbury, ex-Governors Hill and Steele, Gov. Dinsmoor, and others. The meeting was called to order by Mr. Nesmith, the President of the Society, who, after preyer by Rev. Dr. Bouton, gave an account of the organization of the Society, which took place at a meeting of a few public spirited individuals the past winter. Application was made to the Legislature for aid, and a bill making a suitable appropriation passed the House of Assembly unanimously, but was lost by a tie vote in the Senate. He thought, and justly too, that the present fair, undertaken and carried into successful operation by the farmers themselves, would have a favorable effect upon the next Legislature. In conclusion the President said, that in looking for a model institution, from which to pattern theirs, they had fixed upon that of New York, and that they had selected and invited one of its members, the Hon. J. P. Beekman of Kinderhook, to address them on this occasion.

After the applause which this announcement elicited, Dr. Beekman commenced his address, in which he gave a history of the rise and progress of the N. Y. State Ag. Society, and the effect it has had on the prosperity of her citizens. He pointed out the small beginning of this now powerful institution,—paid a deserved tribute to the memory and labors of the lamented Buel, and to the influence of the Agricultural press—stated the discouragements under which the Society labored for years, but which were finally overcome by the determined perseverance of the few who looked forward with confidence to the success which has now crowned their labors. He described the progress which had been made in Agricultural improvements during the existence of the Society, and thus encouraged his audience to press forward in the laudable efforts which they had now so auspiciously commenced, until the influence of their Society should be extended, as was that of New-York, over the whole state.

On motion of Ex-Governor Steele, the thanks of the Society were voted to Dr. Beekman for his Address, and a copy asked for publication.

In the evening, the hall was again crowded, to hear remarks from all who chose to address them. The meeting was opened by the President, who reminded the Society that there were present a great number of practical farmers, whom they wished to hear, and expressed the hope that the brief time that they could devote together to the interests of the great cause of agriculture, would be every moment improved.

The meeting was successively addressed by Gov. Steele, Judge Woodbury, Gov. Colby, Mr. Cooke of Keene, Mr. Briggs of Ohio, Gen. Pierce of Concord, Mr. Sawyer of Piermont, Dr. Martin of Dover, Col. Berry of Hebron, and several others. The remarks of several of these gentlemen, proved that as farmers they would compare well with the best farmers in the country, and that their lands, as they should do, were, by an intelligent practice, growing more productive each succeeding year. This is the true course. No man can be justly called a good farmer who permits his land to deteriorate. The meeting was altogether, a very interesting one, and we doubt whether there was one farmer present, who had not, before it broke up, formed the determination, so necessary to useful progress in any branch of industry, hereafter to improve the advantages within his reach, better than he had ever done before. We would gladly copy largely from a report of the speeches, furnished by a correspondent of the Boston Traveller, did our limits permit; but we must close with a few brief examples of what has been done, by way of encouragement to those who are disposed to see what they can accomplish.

Gov. Steele said he had been but five years a farmer, and commenced upon land which had been reduced to the lowest degree. As he was altogether unlearned in the art, he resorted to agricultural books for practical knowledge. He attributed his success in bringing his land from almost barrenness, to a highly productive state, to deep plowing and liberal manuring. My practice, said Gov. S., has been to plow deep, and when time will admit of it, to subsoil, and always with good success.

Gov. Colby said he was a farmer by profession, and was happy to meet with his brother farmers to receive and impart instruction. He had raised this year forty tons of hay from twenty acres, and thirty tons from twenty acres more. This is pretty good, but his land could do better, and he wanted to know how it could be made to do it at the least cost. He had raised wheat for six years upon plowed green-sward, and never failed of having a good crop and good wheat. He lived in a hilly region, where the wind blows, and no insects affected his wheat. The weevil can't live there, and this was an axiom with him, if you would succeed in wheat, raise it where the wind blows. His carrots this year yielded 800 bushels to the acre; and he considered them the best roots to raise for stock—better by far than potatoes.

Mr. Sawyer of Piermont, explained the mode by which he was enabled to raise his own wheat, which was to top dress his land in the fall with lime compost, and he never failed, his crops averaging from 15 to 25 bushels per acre. He thought that the great amount of money paid for flour brought into the state, should be retained at home, and all that they had to do, was just to turn about and raise it for themselves. "Out of the abundance of our land," said Mr. S., "we want and should have, for agricultural prosperity, more small farms. Let every young man have one. Farms of 200 or 300 acres may profitably be divided into 4 or 5 farms, and each acre could then be made to produce three times its present yield. This is the true policy for New England, and by it we shall excel in agriculture, as we now excel in industry and energy. Let us resolve that everything we touch shall bear the mark of improvement, and we can double our wealth, and sustain double the population upon our soil."

Col. Berry of Hebron, related his experience with a "field that he bought some years ago. When purchased, it was entirely reduced, and the whole value of the crop upon it was not worth $15. In the spring of the year, I drew out of the field one hundred and twenty loads of stumps. I then run the plow through it in every direction, driving it to the beam. I manured two acres, and planted it with corn and potatoes. My crop was decent. I plowed and manured again, and sowed to grass and oats, or wheat. I have this year gathered large and profitable crops, but like Gov. Colby, I want to know how I can make that field produce more."

As we left Concord on Thursday morning, we cannot speak of the transactions of the last day; but we learn that the attendance was large—estimated at from eight to ten thousand; and that the exhibition was closed up in a manner most gratifying, both to the public and to the officers of the Society, who,—especially Mr. Nesmith the President, Mr. Walker, the Secretary, and Mr. Baker the Treasurer,—deserve great credit for the success which has crowned this first exhibition of the New-Hampshire State Agricultural Society. May still greater success attend their future labors.

Westchester County Ag. Society.

The annual exhibition of this society took place at Tarrytown on the 9th, 10th, and 11th of October. The general display was less extensive than had been anticipated; owing, probably, to the location being on one side of the county, not conveniently reached from the other portions. The number of animals was small, and with a few exceptions they were only of ordinary quality. Of cattle, most of the breeding stock was of common or mixed blood, whose appearance did not indicate extraordinary value for any purpose. We noticed a very good fat ox, four years old, a cross of the short horn breed, owned by Motte Underhill, Westchester. There was, also, three yoke of good working oxen. There were a few good sheep—long wools and South Downs. Among the former we noticed specimens offered by Dyckman Odell and Saml. Acker, Greenburgh, and Daniel Jepson, Yorktown. Of swine, there was a very large and well shaped sow, resembling the large Lincolnshire breed, owned by Ira Miller, and a Berkshire boar, showing the peculiar points of that breed, owned by P. R. Paulding, Tarrytown.

There was a respectable show of fruits, consisting of apples of the popular kinds for late keeping, a few choice pears, and a very handsome show of grapes. The latter were chiefly from the extensive vineyard of the President of the Society, Dr. R. T. Underhill, at Croton Point. He informed us that he has twenty-five acres in grape vines—twenty of which are devoted to the Isabella variety, and five to the Catawba. The Isabella has ripened a good crop the present season, though in many instances there is complaint of a failure in this respect. The Catawba is always more uncertain than the Isabella, throughout our section of the country, but Dr. U. thought his would ripen quite well, if the mild weather continued till the 16th. These two kinds constitute his main crop, though he cultivates others on a small scale, by way of experiment, and to test their adaptedness to his purposes. His grapes are sold in New-York, at eight to ten cents per pound.

The American Institute held its trial of plows, plowing match, and spading match at Tarrytown, in connexion with the show of the Westchester county Society. The competition, both in the trial of plows and plowing match was quite small—only five plows owned by three men, having been entered for trial, and only three plows for the plowing match. In the trial of plows, the specifications for the size of furrow, were given as follows: 1st, sixteen inches wide, eight inches deep; 2d, twelve inches wide, six inches deep. In regard to the propriety of plowing sixteen inches wide, we may have a word to say another time. What were the rules in reference to the awards on the plowing match, except that the furrows were to be six inches deep we are not informed.

A sub-soil plow was exhibited, (not for premium,) by Mr. Samuel Allen, of New-York, who, though passed the age of three-score and ten, showed the operation of this valuable implement, under the guidance of his own hands.

There were four competitors in the spading match. The ground was divided into lots twenty feet long and ten feet wide, and one hour was allowed for the completion of the work. All the lots were finished within the time, and the quality of the work on two of them, was of the best character—the soil being thoroughly pulverized to the depth of from ten to twelve inches.

Addresses were delivered on the show-ground, before large and highly respectable audiences, on the 10th and 11th, by Dr. Gardner, and by Gen. Dix. Both addresses were able, and creditable to the distinguished speakers, but as they are expected to be published, we will not attempt a particular notice of them here.

From what we saw of Westchester county, in our excursion through a portion of it, we should conclude that the agriculture of several neighborhoods was considerably improving, and it is presumed that these examples will be a strong stimulus to further progress. The proximity to New-York, and the means of reaching a market where all productions find a ready sale at good prices, offer great inducements to high cultivation, and we cannot doubt that a judicious course of farming would be here followed with the most satisfactory returns.

Drainage of Soils.

Fancy a soil full of water, so that any rain which falls on it, just rolls over the surface into the next ditch, without getting into the land. The water in such a case, by excluding the air, will sour the land; it will convert what would have been good food for plants, into poison for them; but even supposing it did not do this, the plants would soon starve. For you must remember that a plant in the soil is just as a man would be who was chained, by the leg, to one place in the larder. The larder may be full of food, but as soon as the man had eaten all that was within his reach, he would starve, though in the midst of plenty; that is he would do so if there were not some contrivance in operation for carrying the different dishes by him as he stood, so that he might take a bit here and there as they passed, just as he chose. Now, in a well drained soil, the rain water is just such a contrivance as this. It dissolves out the mineral part of the soil, and carries it by the roots of plants, so that they may take a bit here and a bit there, as they choose, and thus they are fed; but if the land be not drained, the water soon fills it, and then no more rain will sink in, and the water is stagnant in the land—there is no current through it—the dishes in this larder are lying still on their shelves, and as soon as the poor plant has eaten up all the food around it, (even supposing it to be food and not poison,) it must starve, for it cannot go about after its food like an animal; it is like an animal chained by the leg; it is stationary, and must die if food is not brought to it. The use of draining is to keep the soil so that rain shall sink through it and feed plants. Abundance of water is a good thing. What is more fertile than a water meadow? But then it must not be stagnant water, which keeps the food of plants away from them, or converts it into poison. It must be water in motion continually carrying food to the roots of plants, as in a water meadow or that on a well drained field it does. *Ag. Gaz.*

Method of Skinning Calves.

As most dairymen are in the habit of killing their calves as soon as the milk is good, and as buyers of skins have frequent occasion to complain of cuts and hacks, I give the following method of skinning. First rip the skin as usual, and start it from the fore legs and neck, sufficient to fasten a small chain around the neck of the skin, and with another, chain the neck of the calf to something permanent, and with a small windlass attached to the side of the barn or something where you wish to do your work, draw off the skin by means of small levers or arms of your windlass. G. A. HANCHET.

Poultry Exhibition in Boston.

A Society was organized at Boston, last year, called "The New-England Society for the Improvement of Poultry." Its first exhibition was held in Boston, in Nov. last; and its next exhibition was ordered to be held at Boston on the 12th of this month. But it seems some gentlemen about Boston determined to get the start of the "Improvement Society." The latter part of Sept. anonymous notices were issued, for an exhibition of Poultry, to be held at Boston the first week in October. Many supposed that this call came from the original Society, but its officers disclaimed any connection with it. This extemporaneous exhibition, however, proved to be no trifling affair. Being in Boston at the time, we paid it a visit, and were surprised to find the very large hall (the largest we believe in Boston,) over the Fitchburg Railroad Depot, well filled with coops of poultry, embracing almost every variety to be found in New-England. Two-thirds of the birds consisted of the different sorts of Chinese fowls, known there as the Cochin Chinas, Shanghaes, Chittagongs, &c., &c. These fowls, now all the rage, are, most of them, a long-legged and long-necked race, with little, we should think, to commend them to public favor, save their great height. Beside these, there were White Dorkings, Black Spanish, Black, Golden and Silver Polands, Bolton Greys or Creoles, Wild India, Game and Yankee Game, and Bantams of all sorts, except the very best, together with a host with names not to be found even in the most modern Poultry Books. For our own use, we should have selected from the whole lot, the White Dorkings and Black Spanish, with perhaps some of the varieties of crested fowls. There were but few Turkeys and Geese on exhibition—a tolerable show of Ducks and Pigeons, some few cage-birds, a pair of Golden Pheasants, and one English Pheasant. Presuming some of our readers will be glad to know where the different varieties of Poultry can be had, we annex a list of the Premiums awarded:

First premium, for six best fowls, George P. Burnham, of Melrose, Mass., $10.
Second premium, for six second best, C. B. Marsh, West Roxbury, $6.
For 3 best Cochin Chinas, G. P. Burnham, Melrose, $5.
For 12 best Chickens, this year's growth, G. P. Burnham, Melrose, $5.
For 3 best Shanghaes, Gilman Brackett, Newton, $6.
For 3 best Dorkings, Eben. Wight, Dedham, $5.
For 3 best Game Fowls, O. M. Stacey, Lynn, $5.
For 3 best Black Spanish, Francis Blake. Newton, $3
For 3 best Black Bantams, John Fussel, Roxbury, $4.
For 3 best Chittagongs, G. W. George, Haverhill, $4.
For 12 second best Chickens, Marsh stock, H. H. Williams, Roxbury, $4.
For best pair Turkeys, Theodore Drew, Plymouth, $4.
For 3 best Golden Polands, spangled Hamburgs, A. H. Hale, Rockport, $4.
For 3 best Black Polands, T. G. Morrell, of Georgetown, $4.
For 3 best Bolton Greys, George Dorr. Dorchester, $3.
For best lot of Geese, Dr. W. G. T. Morton. Needham, $4.
For best lot of Ducks, Sidney Packard, Bridgewater, $3.
For Fancy Pigeons, G. P. Richardson, Brookline, $3.
For 2d best Fancy Pigeons, G. W. Boynton, Georgetown, $2.
For best Cage of Canaries, Mrs. J. Merrill, Lowell, $4.
For 2d best do., F. A. Bartlett, Boston, $2.
For best general lot of Fowls, Pearce & Osborne, Danvers, $4.
For specimens of Marsh stock. Capt. F. Alden, Dedham, $4.
For specimens of Javas and White Shanghaes, Parker & White, Boston, $3.
For best do. Perley stock G. W. George, Haverhill, $4.
For 2d best lot of Chickens, Cyrus Smith, Brookline, $3.
For specimens of Shanghaes, Forbes stock, H. B. Coffin, Newton, $3.
For specimens of Wild India and Yankee Game, Dr. Bennett, Plymouth. $5.
For specimens of Forbes Shanghaes, S. & G. Hyde, Newton, $3.
For specimens of Fowls and Ducks, E. C. Thayer, of Braintree, $3.
For the 2d best specimens of Black Spanish, Pearce & Osborne, Danvers, $2.

☞ The regular exhibition of the New-England Society will be held in Boston on the 12th and 13th of this month.

Deferred Notices.

The following notices of articles exhibited at the State Fair were omitted last month for want of room.

Iron Carriages.—Messrs. **Allen & Moody**, of Troy, exhibited a beautiful buggy, made wholly of wrought iron. The frame, spokes and rims of the wheels, thills, &c., were of wrought iron rods, of sizes corresponding to their uses. In some instances, as we were told, hollow pipes, such as are used for gas-pipes, were used. The carriage presented a very neat and at the same time firm and substantial appearance. Its price was $110. Messrs. A. and M. make several descriptions of carriages on this plan.

Vegetable Cutter.—The vegetable cutter offered by E. and N. **Hallock**, Milton, Ulster county, was one of the best and most simple contrivances of this kind that we have seen. It works easily and with great despatch—one man being able to cut with it a bushel of turneps in half a minute. The slices are about three quarters of an inch thick and an inch wide, so that no animal can choke with them, and they can be easily eaten by sheep or other stock.

Oscillating Roller Axle.—This is an invention of S. H. **Mix**, Esq., editor of the Schoharie *Patriot*. To the ends of the axle are attached, by means of a frame, small wheels or rollers, which play within a circle, in the centre of the carriage wheel, and receive the bearing of the load. By these rollers, it is designed to avoid the friction which is produced by the axle playing in the common hub. The principle is similar to that in anti-friction rollers used for large grind stones, &c. A farm wagon, with this kind of axles, was exhibited, and a very favorable opinion was expressed by farmers and others, in regard to its advantages for conveying heavy loads.

Grain Drills.—Several excellent machines of this kind were exhibited. We noticed those made by P. **Seymour**, East Bloomfield, Ontario county, J. **Ganson** & Co., Brockport, Monroe county, N. Y., and **Wm. Croasdale**, Philadelphia, Pa. They are all well recommended, and their relative merits could not, probably, be precisely ascertained, without actual trial.

Cast Iron Mantels.—These were invented by **Hiram Tucker**, of Boston. Several specimens of the articles were exhibited by **Francis Harvey**, Albany. They are of beautiful design and finish, and in elegance of appearance, cannot be surpassed by the finest marble, which they are made to resemble. Their durability, cheapness, and beauty, will cause them to be substituted to a great extent for the more costly marble.

Bingham's Extension Ladders.—These were exhibited by S. Bingham, of Troy. The ladders are carried on a pair of wheels, and by means of very simple machinery, moved by a crank, may be quickly and easily raised to the required height.

Elastic Bottom Bedsteads—*Hinkley's Patent.*—These were exhibted by A. **Adams**, Troy. The bottom consists of wooden slats, made in the usual form, fastened in their places by wires which are twisted around their ends. The wires are attached to the four corners of the bedstead, thus forming an elastic bottom.

A hand used in measuring the height of horses, is four inches.

Fair of the American Institute.

The exhibition of this association for the present year, is thought to have been superior, in several respects, to any previous one. There was a larger collection of machinery and articles of a strictly useful character, than is usually seen here. Among the articles of this kind, we noticed very powerful iron shears, on the principle of Dix's Anti-friction Press, which we understood were designed for exhibition at the World's Fair at London, next year. A steam engine of new and simple construction, was offered by M. P. Coons, of Lansingburgh. King's Railway Washing Machine, also offered by Mr. Coons, appears to be an improvement. Grimes' Improved Cooking Closet, by which baking, boiling, roasting, washing, and ironing may be carried on at the same time, appears to be an economical apparatus.

Good assortments of agricultural implements were exhibited by A. B. Allen & Co., and John Mayher & Co., New-York.

The show of animals was held at the Madison Cottage on the 16th and 17th of October. The display of the different kinds of stock, though not large, was decidedly better in quality, in most of the classes, than we have before witnessed here. Horses were quite numerous, though most of them were too long-legged and too loose made to suit our notion of what horses should be for service and endurance. A compact and heavy Norman horse, bred by Mr. Harris of New-Jersey, was shown by C. F. Howell, Astoria, L. I.

The cattle comprised specimens of Short horns, Devons, Ayrshires, Alderneys, one Hereford, two Hungarians, and a large number under the denomination of "grades," consisting of mixtures of the various imported and common stocks. There were but few full blood short-horns. A good bull, "Earl Seaham," was shown by Sherwood & Stevens, and a good cow and several young animals by Mr. Vail, of Troy. Seven imported Devons, of various ages, were shown by Ambrose Stevens. They were from the celebrated herds of Messrs. Quartly & Mercer, Devonshire, England, and are most beautiful stock —combining size, substance and symmetry in a remarkable degree. W. P. & C. S. Wainwright, of Rhinebeck, exhibited four fine Devons. They were from the herds of Messrs. Baker and Geo. Turner, of Devonshire. The bull, four years old, is a superior animal. A good bull and cow were shown by J. N. Blakeslee, of Connecticut.

R. L. Colt, Esq., Paterson, N. J., exhibited Ayrshires, Alderneys, and Hungarians. Among the "grades," were several excellent milking cows. We noticed as particularly good those offered by Thomas Bell, (the same which were at our State Fair,) and those offered by James Bathgate, a cross of the Ayrshire and Durham, and those of R. R. Morris, a cross of the Holstein and Durham.

There were several good fat cattle. The beautiful red ox, four years old, purchased by Mr. Bell of Mr. Wadsworth at the State Fair, is as fine as ever. Mr. B. has had the misfortune to lose his mate, having been over-heated on his way to Mr. B.'s farm. A pair of very heavy oxen, of good quality, was shown by John J. Coapman, Poughkeepsie. We saw but one yoke of working oxen, and they were not remarkable for any good qualities that we could discover.

In respect to sheep, the show was very good. They were mostly long-wools and South-Downs, with a few Saxons and Merinos. The long-wools offered by Edward Hallock, Milton, Messrs. Bathgate & Bell, of Morrisania, were of good size and form, and strong constitution. There were several lots of excellent South-Downs, particularly those imported by Ambrose Stevens, and those offered by Edward Waite, Montgomery, Orange county, and D. B. Haight, Washington, Dutchess county. D. W. Catlin, of New-York, exhibited several Saxon rams and ewes, of the stock imported by him in connexion with C. B. Smith, of Connecticut. Good Saxons were also shown by Walter Wakeman, North-East, Dutchess county. J. N. Blakeslee & Son, and Mr. Thrall, of Connecticut, showed excellent specimens of Merinos.

Of swine, some fine Suffolk pigs were shown by Edward Hallock; and a first rate imported boar, thirteen months old, of Fisher Hobbs' Black Essex variety, was shown by Samuel Brewer, New-York. Several lots of white hogs, of a very large kind, called Lincolnshires, were exhibited.

There was quite a display of poultry, comprising several varieties of geese, white and dark colored turkeys, several kinds of ducks, and a large assortment of fowls of the *gallus* family, among which the Malay tribe, under the names of Cochin-China, Shanghae, and half a dozen other names, were prominent. The principal exhibitors in this department were R. L. Colt, Paterson, Wm. Moore, New-York.

Franklin Institute.

This old established Institute are now holding their 20th annual exhibition of American Manufactures, in the buildings called the "Chinese Museum," admirably adapted to the purposes of the exhibition. On the main floor as you enter, you find the machinery in operation—a display alike creditable to American artists and to the Institution. Several water rams are in constant operation, exhibiting their almost self-acting powers. Beautiful steam engines, some of miniature dimensions, are in operation—and the variety of articles in this room, is deserving of the special attention which they are receiving from a crowd of visitors. Two of Woodworth's planing machines are in this room. Many ingenious articles are on exhibition which, did not time prevent, would meet a special notice.

Adjoining this room, the stoves, grates, cooking apparatuses, &c., are exhibited in operation. Bread smoking hot, and cakes in like order, are being exhibited fresh from the ovens, and every desirable facility is here given to visitors to test the value of the different articles for actual use. The arrangements in this room exceed any thing I have elsewhere seen. Agricultural implements of various kinds are contained in the room first named. The No. of articles on exhibition in these rooms is 937.

From the stove room you ascend to the grand exhibition rooms above, being the main rooms of the exhibition. This immense room with its gallery is arranged in the most admirable manner, so that visitors have an opportunity of examining every article without the inconvenience so often experienced. By having the exhibition arranged in several apartments, the crowd of visitors is broken up, and no inconvenience from the throng is experienced. The show of cotton goods is most admirable. I noticed the articles from several N. Y. establishments, among others the New York mills Oneida county, who exhibited very choice *shirtings*, *cottonades*, *check gingham*, and *chambrays*, and from Benj. Marshall, Troy.

Of *woolen goods* the show is superb—some fine cashmeres from Seneca Falls, fine black cloth, Utica steam mills. Some splendid long shawls, from James Roy & Co., Watervliet. The show in this department does great credit to American manufactures, as does that in carpet and oil cloths. The show of silks is also very rich. I have not time to notice the various miscellaneous branches of the show which are very extensive and do great credit to American industry and talent. The whole number of articles actually entered before the exhibition opened is 4,305. No articles are allowed on entry *after* the exhibition opens.

This exhibition is one of American Industry really. It is not made up of fancy articles to entrap visitors—but it is what it professes to be—and does great credit to the Institute, and from the encouragement it receives shows that the Institute may be sustained in the course they have taken to promote American manufactures and the mechanic arts, by an exhibition really useful, and without resort to mere articles of show, attractive only to the story tellers and lovers of sight seeing. J. *Philadelphia, Oct.* 19.

Harvesting Machines.

Eds. Cultivator—As a subscriber to your journal, I have to trouble your friends, of the *Prairie Farmer*, or some other individual, for some particulars respecting reaping machines. Three thousand five hundred machines, equal to the labor of seventeen thousand five hundred men! (Vide note in *The Cultivator* from the *P. F.*) How do you manage this? We are anxious to do things as cheap as possible. I pay nine to twelve shillings [about $2,75 to $3,00] an acre for reaping, binding and shocking my wheat—cut close to the ground either with the sickle or bagging-hook—a woman following each man to tie the wheat. Sometimes we use the scythe, but I do not like this plan, as a great deal of grain is scattered in the field, unless the men are very particular. In my case, where I have to harvest about two hundred acres, it cannot be well done by this mode.

How is the work performed with the reaping machines? Are horses used, and what will be the expense for an acre of wheat? What will be the outlay for the machine, and what time will it take to cut an acre? Is much straw left behind? Do women tie the corn, and has the land to be raked afterwards, or gone over with the sickle or bagging-hook? Is the wheat or other grain required to be free from weeds—as May-weed, thistles, docks, &c. This year, we were a good deal troubled with these pests—the season having been rather wet to harvest time. Wm. Dennison. *Manor Farms, Blackheath, London, Sept.* 15, 1850.

We shall feel greatly obliged if our friends of the *Prairie Farmer* or some of our Western correspondents will furnish us with the information asked for in the above communication. Eds. Cult.

Long Island Lands.

We would call the attention of our readers to the advertisement of Dr. Peck in this No. of the Cultivator, who offers a large tract of valuable land for sale, in the central portion of Long Island. These lands are now attracting the attention of persons desirous of settling in the vicinity of this city. And as the question, as to the productive quality is now entirely settled, there is no longer any doubt that these lands are as good as any new land on the Island. Dr. Peck deserves great credit for the manner in which he has brought this great portion of the Island to the favorable notice of the public, and as being the first to cultivate them to advantage, in the face of long existing opinions and prejudice, that these lands could not be cultivated, and were worthless for all uses of the garden or farm. Dr. P. introduced a new mode of clearing these lands, or new on the Island, by which the cost of clearing per acre has been greatly reduced from the old mode of *grubbing* out the roots by hand. This was, or is, simply by the use of a strong plow and harrow,—with these instruments Dr. Peck clears the ground without any difficulty whatever, and the success in cultivation is complete, as may be seen at Lake Road. The garden and grounds there will bear a favorable comparison with any garden or fields on the Island. *N. Y. Far. and Mec.*

Hose Coupling.

Eds. Cultivator—Having seen noticed an apparatus for coupling hose, in the September number of the Cultivator, and patented Mr. A. H. Brown of Albany, N. Y., I should like to state through the columns of your paper, that I invented, made and used, the coupling noticed, in the year 1841. D. L. Sykes. *East Suffield, Ct., Sept.*25, 1850.

Answers to Correspondents.

Temperature for Churning.—Y., Honesdale, Pa. Experiments have shown that for churning *cream*, the temperature should be from 50 to 55 degrees. If the milk is churned, or the milk and cream together, the temperature at commencing, should be 60 to 65 degrees. The thermometer churn sold by Emery & Co., of this city, is made double, leaving a space of an inch or more between the parts, for the admission of cold or hot water, as may be required to bring the cream to the proper temperature.

Propagating Forest Trees.—D. B. K., Washington Valley, N. J. Brief directions in regard to the propagation of those kinds of forest trees in most common use as ornamental trees, can be found in catalogues of nurseries, &c. It is best to plant the seeds of most kinds as soon as they are ripe, and before they shrink. If they are to be kept long, they should be packed in moss, and kept damp.

Slanting in Drills.—J. B., Annapolis, Md. Machines for sowing wheat in drills can be had at from $55 to $75. The seed is deposited in rows, nine to ten inches apart. The seed is dropped in a continuous line, using about two bushels per acre. Seymour's drill was described (with a cut) in our August number. Emery's drill is the kind chiefly used in this section for planting corn. It will drop the seed at any distance required, from four inches to six feet. The rows are from three to four feet apart, according to the size of the variety of corn. The price of the drill, fitted for working with a horse, is $14.

Syphon.—J. B., Willet, N. Y. We see no difficulty in raising water twenty feet in the manner you speak of, and we presume it will continue to run so long as the supply will fully fill the pipe, provided the pipe is perfectly air-tight.

Ice-house above ground.—M. C., Sperryville, Va. You will find a cut and description of an ice-house of this kind, in our volume for 1847, p. 345.

Gilmore's Apiary.—S. N. S., Hamden, Ct. You will best obtain the information you want in regard to this article, by addressing Mr. G. by letter, at Wayne, Me. He has a patent.

Notes for the Month.

Communications have come to hand, since our last, from A. K., D. M., A Farmer, D. L. Sykes, W. L. Eaton, One who intends to be a Farmer, Titrius, B. H. Nott, Prof. J. P. Norton, J. R. Howard, O. S. Murray, M. Cooper, A Subscriber, S. N. S., J., L. Durand, W. A. Ela.

Books, Pamphlets, &c., have been received, since our last, as follows:

- Lectures on the General Relations which Science bears to Practitical Agriculture, delivered before the New-York State Agricultural Society, by James F. W Johnston, F.R.SS. L. & E., from C. M. Saxton, 123 Fulton street, New-York.
- The New-Brunswick Almanac, and Register, for the year of our Lord 1850, from Dr. Robb, Fredericton.
- Journal of the New-Brunswick Society, for the encouragement of Agriculture, Home Manufactures and Commerce, from Dr. Robb, Fredericton.
- Transactions of the New-Haven County Ag. Society, for 1849, with an Address by Prof. John P. Norton, from L. Durand, Esq.
- The Farmer's Guide to Scientific and Practical Agriculture, Nos. 8, 9, and 10, from Leonard Scott & Co., 79 Fulton street and 54 Gold street.
- Thorburn's Descriptive Annual Catalogue of Bulbous Flowering Roots, with directions for their Culture and Management, from J. M. Thorburn & Co., 15 John street, New-York.
- Minority Report on the Reduction of Letter, Periodical, and Pamphlet Postage, from Hon. Charles Durkee, M. C.
- Catalogue of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs and Plants, Roses, &c., cultivated and for sale at the Hopewell Nurseries, near Fredericksburg, Virginia, by Henry R. Roby, from the Proprietor.

Wire Fences.—We invite attention to the article on this subject by Judge Nott. We have visited his place, and seen the various kinds of fence described by him. His experiments have been very thorough, and have done much towards showing what *will not*, as well as *what will* answer the purpose. His fence made on the plan of a suspension bridge, anchored, or fastened as described, is much the most complete and effectual of any wire-fence we have seen. This mode has also the advantage that it may be made across rocks, or bogs, or even sheets of water, without inconvenience, being secured in its position by the weights at the bottom.

Seedling Pear.—We have received from Mr. S. Worden, of Minetto, Oswego county, N. Y., specimens of a pear called *King's seedling*. Mr. W. states that it was raised by Lorenzo King, of New-Haven, Oswego county, the original tree being now about twenty years old. It is described as a strong, upright grower, yielding large crops every year, and has never been in the least effected by blight. Mr. W.'s description of the fruit, which is as follows, appears to be quite correct: "Size, medium to large—has been known to weigh 14 ounces; color, greenish yellow, when ripened on the tree; flesh, melting, quite juicy, and very sweet, a little gritty at the core; skin, thick; season, the whole of October."

Seed Corn and Seedling Apples.—We have received from Mr. D. A. Buckley, Stone-Hill Farm, Williamstown, Mass., a handsome sample of Dutton corn raised by him; also two varieties of seedling apples, one sweet, the other, moderately sour. The former does not appear to possess any very valuable properties; the latter is a fair-sized, and pleasant apple, but not equal to some others ripening at the same season.

Wild Potatoes.—At the late exhibition of the Westchester county Agricultural Society, Mr. James P. Swain, of Eastchester, exhibited several kinds of potatoes, the original stock of which was procured from a forest in Peru, in 1847. The tubers were at first about the size of peas. They have been planted by Mr. S. three years, and with a manifest improvement in size, each year—several of those now exhibited being of ample size for culinary use. We were presented with specimens of three kinds—white, pink and blue, and shall have them carefully cultivated next season. We understood from Mr. Holmes, of Tarrytown, that the quality of some of them had been proved, and that they were equal to the best kinds known. They have thus far been entirely healthy, though planted in the same fields with others which have rotted. They are well worthy a fair trial.

Splendid Harnesses.—At the late State Fair, Mr. L. J. Lloyd, of this city, exhibited a gold-mounted harness, manufactured by him, which attracted much attention. All the materials used in its construction—the gold, silver, iron, &c., as well as the leather—were *American*. At the late Fair at Vergennes, Vt., a beautiful harness was exhibited, which, (with the exception of the mountings,) was not inferior in materials and workmanship, to any we have ever seen. It was labelled as follows: "From Lambert Maynard, Esq., Boston; a present for the Morgan horse Black-Hawk." We presume it will be preserved as a holliday attire for the noble steed.

Apples from Vermont.—Mr. H. C. Hunt, of New-Haven, Vt., has left with us specimens of Jewett's Best, Burroughs' Greening, Danvers Winter-Sweet, Tynmouth Sweet, and several kinds in regard to the proper names of which we are not quite certain. We will speak of the qualities of some of these kinds, with which we are not now acquainted, when they come into a fit state for eating.

Ohio State Fair.—This exhibition took place at Cincinnati, under the supervision of the State Board of Agriculture, on the 3d, 4th, and 5th of October. A very large number of people attended, and the general result, considering that it was the first attempt of the kind in the State, was highly flattering to the friends of agricultural improvement. We have, as yet seen no official account of the exhibition. A correspondent of the *National Era*, states that—"The whole receipts amounted to $7,285. The amount of premiums paid was $3,000. The total expenses were something less than $10,000, leaving about $3,000 to be supplied by State appropriations and private contributions."

Premium on Bread.—At the late exhibition of the Middlesex county (Mass.) Agricultural Society, a premium was given for the best bread. There were thirty-three competitors. After two hours spent in the examination of the different specimens, the premiums (two) were awarded to bread made by Irish girls.

Cure for Kidney-Worm in Swine.—A writer in the *Ohio Cultivator* states, that he cures this disease by giving the animal afflicted with it, one ounce of copperas daily, for six or eight days. He makes a slop of about two quarts of corn meal and dish-water; dissolves the copperas in a cup of warm water, then mixes the whole together, and gives it to the hog. If he does not eat it at first, he shuts him in a pen and gives him nothing else for several days, or until he eats it. He states that this treatment has cured the disease even when at several months standing.

Hay-caps.—E. Emerson, in replying to the remark made by the editor of the *Mass. Plowman*, that "no practical farmer will be very ready to procure hay-caps,"—says "I am a practical farmer—have used hay-caps for years; they have saved me ten times their cost. In practice I find that a cock of hay may stand out through a storm of a week under a good cap, and receive no other injury only what it receives from the wet ground. From practice I find that the winds have not blown hard enough for the last four years, when I had hay-capped, to blow over a cock with a cap on it. From practice, I find that the caps may remain on after a rain, just as long as you wish to have them, and not injure the hay. You may just as well say that a man must remove his umbrella after a showes as his caps. I have never had a cock of hay as much wet, through a cap, as it would be by a heavy dew without a cap."

School of Applied Chemistry.—We would invite particular attention to the advertisement of this School, which is under the charge of Prof. Norton, Yale College. It will be seen that the fourth course of lectures on Scientific Agriculture, will commence in January next, and we trust that many of our young men will embrace the opportunity here offered, of acquiring a knowledge of those sciences and principles on which the art of husbandry rests. Prof. Norton is a sound, practical, and thorough teacher, and one who has been eminently successful in that vocation, as well as in the results of scientific investigation. The number of students attending his lectures, increases with each successive course, and several of those of former classes have obtained desirable situations as instructors in various institutions.

Sale of Live-Stock.—The public sale of live-stock belonging to the estate of the late William Stickney, took place at Westminster, Vt., on the 9th of October. The number of people in attendance was estimated at one thousand, and the animals brought satisfactory prices. One Devon heifer, two years old, brought $150, another $160, and several cows upwards of $100 each. The Devon bull imported by Mr. Stickney, brought $270. The Suffolk, Middlesex, and Essex pigs sold well. One Suffolk sow and pigs brought over $100, and one sow alone $80.

Agricultural Exhibitions.—These annual jubilees of our rural population, have generally been of an unusually interesting character, the present season, and have been attended by large crowds. We have received accounts of many exhibitions, for which we return our thanks, but are obliged, for want of space, to forego detailed notices.

Heavy Steers.—Col. E. Long, of Cambridge, N. Y., informs us that he has a pair of steers, two years old last April, which weighed alive on the 12th of October, 3,420 lbs. They were intended for exhibition at the State Fair, but by an accident were prevented from arriving in time.

New Books.—C. M. Saxton, 123 Fulton-street, New-York, has just issued a handsome edition of Prof. Johnston's Lectures before the N. Y. State Ag. Society, delivered at the Capitol last winter. Mr. S. has also in press a new edition of Prof. J.'s Agricultural Chemistry.

Long and Rotten Manures.—Were we not guided by experience, perhaps we should be led to imagine there would not only be a saving of the ammoniacal salts, phosphates, &c., by applying manure fresh to the soil, but that all soils would be equally benefitted by being thus treated. Not so. The chemical action of the manure will be equally efficacious on light and heavy soils, but this is more than counteracted by the injurious mechanical action. Whilst unfermented dung will prove most beneficial to our clays, half rotten dung will be most efficacious to soils of a medium texture, and rotten dung to our light ones. Decomposed farm-yard manure is no better adapted for every soil than one man is adapted for every profession. *Ag. Gaz.*

Merino Sheep for Sale.

500 MERINO LAMBS for sale, in lots of 50 or more, at $1,50 per head. 800 good sheep to slaughter.

The undersigned will also sell 200 pure bred Merino Ewes, of good age, at from 8 to 10 dollars per head. Cash down, or good credit, one year. S. W. JEWETT.
Middlebury, Vt., Oct. 18, 1850.—1t.*

Cow Milkers.

A GENUINE ARTICLE—small, compact, and cheap—may be sent by mail or carried in a Pocket Wallet. Price $2,50.
For sale, by EMERY & CO.
Nov. 1—1t 369 and 371 Broadway, Albany, N. Y.

A New Book for the
Practical Farmer.

LECTURES on the General Relations which Science bears to PRACTICAL AGRICULTURE, delivered before the New York State Agricultural Society, by James F. W. Johnston, F. R. S. S. L. and E., Prof. of Agricultural Chemistry in Durham University, Eng., author of Lectures on "Agricultural Chemistry," etc. etc., with notes and additions by an American Farmer. Illustrated by a Portrait of the author—price 75cts in cloth binding, 50cts in paper (mail edition.) C. M. SAXTON,
Agricultural Book Publisher, 120 Fulton st., New-York.

C. M. Saxton *has in press* a new edition of Prof. Johnston's Lectures on the application of Chemistry and Geology to Agriculture—Price $1,25 colth, *mail edition* $1.

Also Hoare on the cultivation of the Grape vine with full directions for its management—Price 50cts cloth, mail edition 37½.
Nov. 1—1t.

Sale of Merino Sheep.

I WILL sell at my Farm, on Wednesday, the 20th day of November, at 1 o'clock, P. M., 40 Merino Rams, and 100 Merino Ewes.

These Sheep I have bred from Sheep I purchased of J. N. Blakesly. Esq., of Watertown, Conn. A history of his sheep can be found in the Cultivator for 1844, at page 238.

At my last shearing I took off 180 fleeces, 100 of them from breeding Ewes, 60 from shearlings, and the balance from Rams and Wethers. They averaged 4 3-4 lbs.

For the quality of the Wool, I give the copy of a letter from H. G. Ellsworth, Esq. Agent of Woolen Manufacturing Co. in this city, to the Editor of the Cultivator.

Office of the Auburn Woolen Company,
Auburn, N. Y., Oct. 8. 1850.

Editor Cultivator, Dear Sir:—Learning that Col. J. M. Sherwood, of this city, has proposed to sell a portion of his Merino Sheep, I take pleasure in recommending them to the attention of such persons as may wish to improve their stock of this kind. I have manufactured, in the Mills of this Company, the wool taken from this flock, during the last three years, and find *it grades higher and more even, spins better, and is, on the whole, superior to any lot of Merino wool I have met with.* H. G. ELLSWORTH, Agent.

The Rams will be put up at ten dollars each. The Ewes will be sold in lots of five, and will be put up at *five dollars for each Ewe.* If these prices are not offered, they will remain mine.
Terms cash at the sale. J. M. SHERWOOD.
Auburn, N. Y., October 10th, 1850—1t.

Isabella Grape Vines,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over twelve years has conferred on the Vineyards at Croton Point, are offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the grape with entire success, (provided their locality is not too far north.) All communications, post paid, addressed to R. T. UNDERHILL, M. D. Grape Depot, 379 Broadway corner of White st., New York, will receive prompt attention.

He feels quite confident that he has so far meliorated the character and habits of the grape vines in his vineyards and nurseries by improved cultivation, pruning, &c., that they will generally ripen well, and produce good fruit when planted in most of the Northern and all the Western, Middle and Southern States.
Nov. 1, 1850—2t.

$500 TO $2000 A YEAR.
FIVE HUNDRED AGENTS WANTED
In all the States of the Union,
Including California,

TO CANVASS FOR THE FOLLOWING important and valuable works, which are sold by subscription.

We have now about two hundred Agents in the field, many of them clearing from *two to eight dollars per day*. It will be seen that they are all of a very popular and desirable kind, and calculated to please almost every taste. For further particulars apply (post paid) to the publishers, DERBY & MILLER,
Auburn, N. Y.

"HOW A FARMER MAY BECOME RICH."
Blake's Farmer's Every Day Book,

Or how a Farmer can become rich—being sketches of Life in the Country; with the Popular Elements of practical and Theoretical Agriculture, and twelve hundrod Laconics and Apothegms relating to Morals, Regime and general Literature; also 500 receipts, on health, Cookery and domestic economy; with ten fine illustrations, representing the various scenes attendant upon Farming, etc., By John L. Blake, D. D., author of "Biographical Dictionary," "Family Encyclopedia," &c.

The publishers respectfully announce that they have undertaken the publication of this large and beautiful work, with a view to supply a *desideratum* that has long been felt—a book for *every Farmer's Library*—believing that the venerable author has produced a work that will be worth its weight in gold to every Farmer's family, that thoroughly peruse it. It is proper to state that Dr. Blake is a *practical farmer*, and has reclaimed a sterile and worn out piece of land into a valuable and productive farm—which experience, with his well known qualifications as an author, peculiarly fit him to prepare a book for farmers.

The work contains 654 pages, large octavo, with a motto surrounding each page. It is printed on fine paper, and bound in substantial imitation Turkey Morocco, gilt back. Invariable retail price, $3.00.

Frost's Pictorial History of California.

The History of the State of California, from the earliest period of her conquest by the Spaniards, to her acquisition by the United States; with an account of the discovery of the immense Gold Mines, and the quantity of Gold already obtained; the enormous increase of population; a description of the Mineral and Agricultural resources of the country; with adventures and travels among the mines. Also, advice to Emigrants, as to the most desirable *routes* thither. To which is added the Constitution of the State of California, with numerous illustrations, and a Map of California, and the gold mines, in one octavo volume, 500 pages; bound in same style as Mexican War. Retail price, $2,50.

"I am prepared—I have endeavored to do my duty."

The Life of Zachary Taylor,

Late President of the United States, including the closing scenes of his life and death, by H. Montgomery—embellished with a steel portrait and 15 illustrations, in one elegant octavo vol., 463 pages, well printed on fine paper, and bound in substantial morocco, gilt back.

"The lightnings may flash, the thunders may rattle,
He hears not, he heeds not, he's free from all pain,
He sleeps his last sleep, he has fought his last battle,
No sound can awake him to glory again."

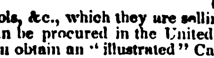
More than 20,000 copies of the above work have been sold by us, and the demand is unabated. It is allowed by critics, to be the most complete and authentic copy of any of the works purporting to be a Life of the Great Man of the Age. Retail price $2,00.

Drain Tile Works,
63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.

July 1, 1850—tf. A. S. BABCOCK.

Agricultural Warehouse and Seed Store.
No. 197 Water street, (near Fulton,) New-York.



THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

Agricultural and Horticultural Implements, and
Field and Garden Seeds.

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,

August 1, 1850.—tf. 189 & 191 Water St., New-York.

White Dorkings.

THE subscriber has on hand a few choice White Dorking fowls which he will sell at fair prices—bred by himself. As far as his knowledge goes, this variety of the Dorkings is more sought after, both in England and in this country, on account of their color. Price, $5 per pair. L. DURAND.

Derby, Ct., Oct. 1, 1850—2t.*

Fruit and Ornamental Trees.

THE subscribers would beg leave to give notice to dealers and others purchasing Pear trees, that their stock is remarkably well grown this season, and will be very strong and fine for the fall sales, and is as extensive a collection of saleable trees as can be found at any other nursery in the county. The collection grown on quince stock is also very fine.

The stock of Apple trees will also be very large this fall, in lots to suit purchasers.

PLUMS—A general assortment of most of the leading kinds.

CHERRIES, APRICOTS, PEACHES, GRAPE VINES, GOOSEBERRIES, CURRANTS, with other small Fruits, at the lowest market prices.

ORNAMENTAL TREES, being also grown extensively, can be furnished by the hundred at very reasonable rates—European Linden, Mountain Ash, Scotch Elms, English Elms, Horse Chestnuts, with a good collection of ROSES, &c. Catalogues will be forwarded to all applicants. WILSON, THORBURN & TELLER,

Oct. 1, 1850—2t Nurserymen, 492 Broadway, Albany.

Choice Fruit Trees.
Rochester Commercial Nursery. Established 1830.

THE subscribers offer for sale, this autumn and the coming, one of the largest stocks of fruit trees in this state; carefully propagated and grown by ourselves, and warranted correctly named.

It has been our constant aim to cultivate none but the good varieties, leaving to others the long list of useless trash.

We sell very much at wholesale, and have furnished as many as 5,000 Apple trees for a single orchard, and 3,000 dwarf Pears.

Persons wishing to purchase in large or small quantities, will find it to their interest to communicate with us.

BISSELL & HOOKER,
Oct. 1—2t. Rochester N. Y.

Ayrshire Bull for Sale.

THE two-year-old Ayrshire bull, "Governor 3d," out of "Lady Rose," by "Governor 2d," both prize animals in Scotland, selected for and imported by R. S. Griswold, of Hartford, Conn., in 1846. The Bull may be seen at the farm of Mr. PRENTICE, Mount Hope, near Albany Price $100. Oct. 1, 1850.

Postponed Sale of full bred Short-horns and improved Dairy Stock.

OWING to affliction in my family, I have postponed the annual sale which was to take place in October, 1850, until the 26th day of June, 1851.

I also decline selling any stock by private sale, so as to offer the public, at auction, all the animals I have to part with, without having any previously selected from the herd, and all animals offered will be sold without reserve.

My new importations of Short-horns, Devons, South Down Sheep and Hogs, will arrive during the fall.

Timely Catalogues, with full descriptions of each animal, will be published in the principal Agricultural journals.

Mount Fordham, Oct. 1st, 1850. L. G. MORRIS.

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G. Emerson, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

"We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed in premiums by Agricultural Societies. How much better, and in better taste, than the amount of its cost in money."—*J. S. Skinner.*

Sold by L. Tucker, Albany; A. Hart, Philadelphia; Derby & Co., Buffalo; W. D. Ticknor & Co., Boston; and the principal booksellers in the Union. Price $4. (Cost of the imported work in 1 vol. *without any plates*, $14.) July 1—tf.

Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

A New Hardy Climber.

THE new and beautiful Climber, Calestigia pubescens, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter, without the least protection. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental planted in patches like the verbenas; makes an admirable screen, and is very effective in young plantations, belts, or shrubberies, trailing prettily on the surface, and running up among the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting cemeteries and public gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start it under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order, by mail or express, October 20th, tubers sufficient for 100 plants, at $5.00; 50 plants, $3.00; with directions for propagation and culture.

Strong plants in pots, in April, $1 per pair. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct., 1, 1850—tf

Pear Seedlings.

THE undersigned offers for sale, 100,000 pear seedlings, from $8.00 to $20.00 per 1,000, and a great variety of dwarf and free stocks for nurseries at low prices—fruit and ornamental; also

Deodar Cedars, 1 to 3 ft., $1 to $3; Araucaria imbricata, $1. Cedar of Lebanon, $1; Thuya filiformis, $1.50; Lonicera Ledebourii, 50 cents; Spiræa Reevsii, 50 cents; ——— prunifolia fl. pleno, 50 cents; Japan Pear, double crimson, 50 cts; Ribes albidum, 50 cts; Spiræa Lindleyana, 50 cents. New Lilacs, fine Double Hawthorns, and a full assortment of ornamental plants, of which a priced list will be sent, post paid, to order.

APPLES—A few hundred extra Dwarf Pyramidal Apples, of the best sorts, in a bearing state.

RHUBARB—Ten thousand Willmott's Early, and Myatt's Victoria Rhubarb.

IVES' WASHINGTON SEEDLING PLUM—(Originated by J. M. Ives, Esq., of Salem, Mass..) is pronounced by the best judges equal to any American Plum yet produced. It is of great size and beauty, and of delicious flavor. $2.00

Local Fruits.—The Watson Pear, an excellent early pear, (August 20,) handsome, and of good size, of a peculiar and delicious flavor; an old favorite here, where it has fruited above sixty years. The Horseblock or Manonet, Sassafras or Spur Sweet, Holmes and Hightop Apples, are all excellent fruit, descriptions of which may be found in the leading Horticultural Magazines for the years 1849–50. One of each of the above, $2.00. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct. 1, 1850—tf.

South Down Sheep.

THE subscriber offers for sale, this season, several pure bred South Down Rams, varying in age from lambs to 4 years old. Also several Ewes, from one year to four years old.

The Lambs and Yearlings of this flock, are from an imported Ram from the Duke of Richmond's celebrated flock.

Applications for the above Sheep may be addressed to the subscriber in this city. JNO. McD. McINTYRE.

Albany, August 12, 1850—3t.

Unrivaled Improvement in Water Wheels for Mill-Owners.

RECENT improvements in the French Turbine and Scotch Mortar Water Wheels, exceeding all others, even the most perfect Overshot Wheel, by a great percentage, has been patented by Mr. Henry Van Dewater. It has been fully tested, and found *far* in advance of all other wheels, both in power and economy, or quantity of water required. Its superiority is established in the following points: 1st. It gives greater percentage of the water. 2d. Is not affected by back-water. 3d. Is not obstructed by ice. 4th. Wastes no water. 5th. Is more durable. 6th. Requires less room. 7th. It is less variable in its motion when performing more or less labor, with the same supply of water.

The quantity of water required under different heads and falls, for six and a half horse power, say from 5 feet to 28 feet fall, first
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
5-114, 6-88, 7-68, 8-57, 9-48. 10-44, 11-38, 12-31, 13-31, 14-29, 15-26,
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
16-25, 17-23, 18-21, 19-20, 20-19, 21-18, 22-17, 23-16, 24 15, 25-14,
ft in ft in ft in
26-11, 27-10, 28-9. All who may wish to improve their mills or factories, by the use of the above wheels, and will send us a statement of head and fall of water, and the amount of horse power required to drive the machinery they use, will receive immediate attention.

☞ This wheel is capable of driving, according to the quantity water, and as the head and fall may be in height, from 6 horse-power to 250 horse-power.

Mr. Jagger, is a practical and experienced mill-wright, and considers this the best Water Wheel that has ever been offered to the public.

We have a large assortment of Machinery patterns, that have been collecting more than fifty years, and are ready at all times to furnish Castings, fitted or not, at short notice and on fair terms.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works,
Oct 1—6t. No. 110 Beaver street, Albany, N. Y.

Fruit and Ornamental Trees, &c.

THE subscriber cultivates at his Nurseries, and has for sale at his residence, *Eustis-street*, Roxbury, Mass., all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees, Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, etc.. etc., etc.

Also several thousand Pear Trees on the Quince—one, two, three, four and five years from the bud.

Particular attention paid to the cultivation of the Pear.

Persons wishing extra sized trees, *or trees on Quince stock in a bearing state*, will please call at the Nurseries and make their own selection.

30,000 Buckthorn Plants.

Ornamental Trees, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

The whole for sale at the lowest market price. Catalogues gratis to post-paid applicants. SAMUEL WALKER,

Roxbury, Sept. 1—3t. *Roxbury, Mass.*

Fruit and Ornamental Trees,

at the Nursery of J. J. THOMAS, *Macedon, N. Y.*

MOST of the Trees are of large, handsome, and thrifty growth, and they embrace careful selections of the best sorts of Apples, Peaches, Pears, Cherries, Apricots, &c., with the smaller fruits.

When purchasers desire, selections will be made by the proprietor, so as to afford a regular succession of the best varieties throughout the season; and all may be relied on as strictly true to their names, *the proprietor having for the past fifteen years invariably adhered to the rule of selling none but* THOROUGHLY PROVED *sorts.*

A carefully assorted collection of hardy Ornamental Trees, Shrubs, and Herbaceous Perennial Plants, furnished at moderate prices.

Trees for canal and railroad well packed in bundles, enclosed in strong mats, with roots mudded and encased in wet moss, so as to preclude all danger of injury.

All communications, *post-paid*, to be directed Macedon. Wayne Co., N. Y. Sept. 1—3t.

Syracuse Nurseries.

Thorp, Smith & Hanchett, Proprietors, Syracuse, N. Y.

THESE Nurseries are now most abundantly stocked with the various kinds of fruit trees suitable to this climate, to which the proprietors feel much satisfaction in calling the attention of cultivators and dealers. The peculiarly favorable season hath given to their trees a vigor of body, a hale outstretching of the limbs, and a beauty of form, which do render it a grateful entertainment for the eyes to dwell upon them. Trees, superior in those particulars, have rarely been offered to purchasers.

Their nurseries embrace all of the most approved varieties, old or new, of the various kinds of

FRUIT TREES—From which customers can be supplied in quantities of from 10, to 10,000, as excellent in quality, and as reasonable in terms, as can be found at any other like establishment.

ORNAMENTAL TREES—Splendid in size and form, of the *Horse Chestnut, Mountain Ash, Balsam Fir, Ailanthus*, and various others, may be had, largely or otherwise.

BUCKTHORN FOR HEDGES—One and two years old, very stout; Snowballs, Michigan Roses, Grape roots, Quince Trees, Currants, Gooseberries, &c., &c.; all, or any of which, will be parted with at most reasonable prices.

Catalogues, as usual, supplied to *post-paying* applicants.

Syracuse, 1st Oct., 1850—2t.

Apple Trees for Orchards.

MANY thousand fine Trees, mostly 7 to 8 feet high, *propagated in all cases from thoroughly proved or bearing trees*, for sale at the nursery of J. J. THOMAS, Macedon, Wayne Co., N. Y.

They embrace the best standard varieties, with nearly all the valuable new sorts; among them are Early Harvest, Sine Qua Non, Sweet Bough, Early Joe, Summer Sweet Paradise, Autumn Strawberry, Gravenstein, Dutch Mignonne, Rambo, Fall Pippin, Yellow Bellflower, Rhode Island Greening, Esopus Spitzenburgh, Northern Spy, Swaar, &c., &c.

Price, varying with selections, from *sixteen* to *eighteen* dollars per hundred—a first rate selection of summer, autumn, and winter fruit, of fifteen to thirty varieties, if made by the proprietor, furnished at *sixteen dollars* per hundred, or *seventeen* if well packed in matted bundles, and delivered at canal or railway. All orders to be accompanied with remittances. Sept. 1—3t.

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000! ☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M D., Isaac Mass, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

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School of Applied Chemistry,

Yale College, New Haven, Conn.

JOHN P. NORTON, Prof. of Scientific Agriculture.
HENRY WURTZ, First Assistant.

STUDENTS are received in this Laboratory as a special class distinct from the other college departments, and instruction is given in all branches of Chemistry, both organic and inorganic, general and special.

Every facility is afforded to those who desire to become proficient in Scientific Agriculture, in the analysis of soils, plants, animal substances, manures, &c. Students taken with special reference to their becoming instructors.

A Course of Lectures upon *Scientific Agriculture*, by Prof. Norton, will commence about the middle of January, and continue two and a half months. This course is intended to present a plain and intelligible view of the connections of science with agriculture, which may be understood by any farmer. Mr. Wurtz proposes to lecture on some points of Applied Chemistry during the summer term.

The lectures of Prof. Silliman on Geology and Mineralogy, and those of Prof. Olmsted, on Natural Philosophy, Astronomy and Meteorology; also the college libraries and cabinets, are accessible to the students.

For information as to terms, &c., apply to Prof. NORTON,
Oct. 9, 1850—4t *New-Haven.*

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm. Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,
Nov. 1, 1850—1t* JOSEPH CALDWELL.

Choice Fruit Trees.

THE SUBSCRIBER would announce to the public that his stock of Apple Trees especially, this fall, is unusually large and fine, having a full stock of Baldwin, Rhode Island Greening, Northern Spy, Swaar, Boston Russet, Ladies Sweet, Yellow Harvest, &c., 6 to 9 feet and handsome, with all the leading as well as new choice and rare varieties, with a general assortment of Plums, Pears, Cherries, Apricots, Nectarines, Peaches, Quinces, Gooseberries, Grape vines and Currants, with Red Antwerp, Franconia and Fastolff Raspberries at $6 to $8 per 100. Strawberries of the best varieties assorted at $5 per 1000.

CHAS. HAMILTON.

Cornwall, Oct. 1850—1t.

Valuable Farm for Sale.

THE subscriber offers for sale the farm on which he resides situated in Wayne county, N. Y., 1¾ miles east of the thriving village of Palmyra. The Lyons and Rochester turnpike passes in front of the house, which is a good two storied frame building 35 feet by 25, with cellar below, and kitchen, woodshed, &c. attached. It is pleasantly situated on the north side of and overlooking the valley of the Erie Canal, surrounded by shrubs and ornamental trees. There is a choice collection of the best varieties of cultivated fruit, consisting of Apple, Peach, Cherry and Plum orchards, also Apricots, Almonds, Nectarines, Filberts, Grapes, &c. The farm contains 109 acres, about 30 of which are between the house and Mud creek well adapted to meadow and pasture. The plough land is a good gravelly loam excellent for wheat, corn, barley, &c, in a high state of cultivation,—of wood there is about 17 acres well timbered. It has about 200 rods of thorn hedge, with abundance of durable fencing materials. The farm is well located as to markets, mills, schools, situation is healthy, water good and convenient, so arranged as to supply almost every lot. Out-buildings convenient and good. Also for sale three young draught Stallions, 4 years old, sired by his imported draught horse "Samson." (For description of whose stock, see "Albany Cultivator" of Sept. 1849, page 289.) Also a fine large breeding mare, of same stock, with a foal by her side "by Nottingham's and Allen's Samson," (who took first premium as the best draught horse at the State Fair of 1849.) Also a large powerfully built two year old stud colt, from same mare, by the imported draught horse "Honest Tom." Inquiry may be made of R. B. Howland, Union Springs, Cayuga county. N. Y., or J. J. Thomas, Macedon, Wayne county, N. Y. For particulars address the subscriber. JOHN ROBINSON

Palmyra, Wayne county, N. Y., 9 month 26, 1850—1t.*

$8,000 ACRES LONG ISLAND

Land for Sale,

At Lake Road.

THE UNDERSIGNED IS, AND HAS BEEN for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 8,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi-distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 48 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the North and South side of this land—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkama Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance, and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the South of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 feet deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations, but with all the privileges and comforts of an old. Apply to A. B. Allen, Esq., Editor of the *American Agriculturist*, 187 Water st.; to Messrs. Starr & Alburtis, Editors of the Farmer and Mechanic, 122 Nassau st.; to Messrs. Dewey & Wood, 82 Nassau-st., New-York, or to

E. F. PECK,
306 State st., Brooklyn, L. I.

☞ Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there. Oct. 1—2t.

THE CULTIVATOR

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LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

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☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

☞ The back vols. can be furnished to new subscribers—and may be obtained of the following Agents:

NEW-YORK—M. H. Newman & Co., 199 Broadway.
BOSTON—J. Breck & Co., 52 North Market-st., and E. Wight, 7 Congress-st.
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Advertisements—The charge for advertisements is $1, for 12 lines, for each insertion. No variation made from these terms

THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

NEW SERIES. ALBANY, DECEMBER, 1850. VOL. VII.—NO. 12.

Close of the Volume.

THE close of the year brings us again to the point at which it becomes necessary, in accordance with our established plan, to commence our subscription list anew. The present number completes the seventh volume of the new series of THE CULTIVATOR, making the seventeenth from the commencement. Concerning our past course, we have little to offer; our work has been long before the public, and has been judged by its merits. We have no desire to appeal from that judgment, but shall labor assiduously, as we have hitherto done, to "IMPROVE THE SOIL AND THE MIND." The past year has brought many circumstances of encouragement, and that upon whose threshold we are about entering, is not without hopeful and cheering prospects. The taste for agricultural improvement is on the increase. The number of farmers who read and *study*—who endeavor to trace the connection of cause and effect, in the various phenomena which pass under their observation, is being gradually but constantly augmented. Thirty years ago, there was one, and only one, regularly issued agricultural periodical in the United States; that was commenced in 1819. Three years later a second was started: it was a subject of doubt, with some, whether the two would be sustained. Now, no less than fifteen are issued monthly, in the States, and one in Canada, besides five weekly papers in which agriculture is the leading subject. There are also two or three periodicals specially devoted to horticulture.

These publications wield a great influence. They have awakened a large body of the farmers to the importance of their calling,—and realizing the great fact that agriculture feeds all and clothes all, they have been led to a just appreciation of their position in the social and political organization of society. They perceive that an art which lies at the foundation of all other arts, is inferior to none in dignity; and as they investigate its principles, they see that it affords ample scope for philosophic investigation, and the exercise of the powers of the mind. Men of intellect and ability have become convinced that agriculture presents a field worthy of their labors. The erroneous notion formerly entertained by many of our young men, that honors were not to be found in the pursuit of agriculture, has been in a good degree discarded. Many of the most intelligent class have applied themselves to farming with energy. We are witnessing the ultimate effects of this influence on the husbandry of the country. Farm operations are carried on with more system, cultivation is practiced on more rational principles and with better and more certain returns.

Our object will be, as it has always been, to encourage and carry forward this spirit of improvement. Our work will contine to be a medium for the dissemination of principles and facts calculated to benefit all who are engaged in rural pursuits. In this labor we are happy in being permitted to say that we shall receive the continued aid of Prof NORTON, of Yale College, and the Hon. F. HOLBROOK, of Vermont—men whose scientific and practical knowledge of all that pertains to agriculture, places them in the first rank of writers on that subject.

Our terms will be the same as heretofore—Single copy $1—Seven copies for $5—Fifteen copies, $10.

PRESENT TO SUBSCRIBERS FOR 1851.—A copy of "THE PICTORIAL CULTIVATOR ALMANAC for 1851," prepared and published expressly as a New-Year's Present for subscribers to THE CULTIVATOR, will be sent to each, with the January number. It is greatly superior to any thing of the kind which has yet appeared in this country, not only in the amount and richness of its engravings, and in its typopraphical finish, but it has been the aim to make it eminently useful, by presenting as large an amount of valuable condensed reading as can be compressed within the allotted space; and to give nothing in the shape of facts or practical directions, the correctness of which has not been thoroughly proved. It is printed on the same size sheet, and intended to form the first thirty-two pages of the volume of THE CULTIVATOR for 1851, with which it should be bound.

☞ For Premiums to Agents, see last page of this number.

☞ We have not thought it necessary to re-publish our list of Agents; but we shall be glad to have all who are disposed to aid in promoting the circulation of THE CULTIVATOR, consider themselves as especially appointed AGENTS to receive subscribers for our next volume, and for any aid they may render us, they will receive our hearty thanks.

☞ Prospectuses and sample numbers will be sent, on application, to all who desire them.

"Manure is Money."

There is no maxim in reference to agriculture, the soundness of which is more obvious than this, and none, perhaps, which is more disregarded in practice. It is often argued by farmers who are located on new and fertile soils, that there is no necessity for manuring—that the soil is already rich enough, or that the little benefit of manures would not compensate for the labor of applying them. It is not to be denied that there are particular cases to which this reasoning will apply; that is, there are soils which, for a while, contain all or nearly all the elements necessary for the support of crops; but the inevitable tendency of the growth and removal of plants, without any return, is the exhaustion of the soil, and this result must sooner or later be made manifest under all circumstances.

Besides, the idea of the inexpediency of manuring is, in many instances, carried to a pernicious extreme. A farmer chances to locate on a soil, which, when first subjected to the plow, yields bountiful returns; and flattered, or perhaps made indolent and careless, by the easy living he gets, he continues the course with which he began, till utter barrenness is the consequence. The country abounds with examples of this system of devastation; it has spread from the Eastern to the Western States, and is still progressing in the same direction. Everywhere its ultimate effects are the same,—the difference on different soils, being one of *time* only. Even in the new State of Ohio, the fertility of which, was, a few years since, vaunted the world over, there are many worn-out acres, which have been sold at low prices by their former owners, who have removed still further west, to run over and lay waste more new land. The same operations are in progress, more or less, in Indiana, Illinois, and other western States.

These effects would always be avoided by a proper course of management. It should be the first endeavor of the farmer to save and apply, to the greatest advantage, those fertilizing substances which he can most readily obtain. The excrement of animals, all animal offal—as entrails, flesh, skin, bones, horns, hoofs, &c.,—vegetable matter, in the form of straw, coarse grass, refuse hay,—wood-ashes, &c., should be carefully saved. The waste of these articles, in many parts of the country is really a subject of astonishment. On farms where the soil has already been much exhausted, and is every year growing poorer, it is not uncommon to find much of the manure of the barn-yard and hog-pen washed into the highway, or carried off by some neighboring stream. Inattention to the saving of urine, and the waste of that valuable fertilizer, is still more common, and a cause of still greater loss.

The means to be adopted by the farmer for saving the manure of his domestic animals, must be somewhat varied to suit particular circumstances. In the northern part of the country, stock is generally sheltered in winter—horses and cattle being commonly kept at night in stalls. Perhaps there is no plan which better answers the purpose of saving the liquid and solid excrements, than that of a cellar under the barn or stable where the animals are kept. This receives all, and if the bottom of the cellar has been made tight with clay or cement, there can be no waste. The temperature is not high enough to produce rapid fermentation, leaving the manure to gradually decompose, and its gases to combine with the litter, muck, or other absorbent matters, which should always be mixed with it to such an extent as to make it sufficiently dry to be readily loaded and carted. No situation can be more convenient for mixing these substances, or forming any kind of compost, as by keeping the manure level, and spreading over the materials to be added, at proper intervals, the whole will become intimately combined. It here undergoes no loss by keeping, but may be used whenever required.

In mild weather, cattle are kept more or less in yards and sheds adjoining the barn, and sheep are kept in sheds connected with yards. These sheds and yards should be well coated with muck or litter, before the stock is brought up in the fall. The yards should be in the form of a basin, so tight that nothing will soak through, and muck, potato vines, refuse corn-stalks, and other rubbish should be thrown in to absorb the liquid. The dung of sheep is dry, and from its containing a large proportion of nitrogen, is inclined to heat violently, by which much of its value is dissipated. To prevent this, it would be an advantage to spread a coat of muck, an inch or two thick, through the sheds, once a week, or if litter is more convenient it may be used, and kept sufficiently moist by being watered from a pump or aqueduct, by a spout or hose-pipe. Care should be taken that too much water is not applied—the manure should simply be *moistened*,—if made *wet* the sheep will be injured by being kept on it.

We saw, lately, on the farm of Mr. Henry Keeler, of South Salem, Westchester county, N. Y., some good arrangements in regard to saving manures. His barns and sheds are so placed as to occupy three sides of a square, the opening being to the south. The basement of the main barn is used for stabling cattle and horses—the storage of hay, &c., being on the floor above, which is nearly on a level with the ground on one side. The horses are ranged on one side of the barn and the cattle on the other. The animals stand on ground considerably higher than the centre of the area—the centre having been excavated for the purpose of forming a receptacle for the manure. Into this, the manure from the cattle and horses is thrown, it being mixed together, and also mixed with litter. The urine from both sides is conducted into a tank, from which it is raised by a chain pump and turned over the manure-heap, in such quantities and as often as is necessary to keep it sufficiently moist. From the large quantity of absorbent matters mixed with the manure, no effluvium or gas is perceived to arise from it.

Mr. K. has, however, adopted another plan, which he likes better, and which we think preferable to the above, in another building, where most of his neat cattle are kept. The cattle stand on flag-stones, nicely laid, and which are kept at all times well covered with litter. Under the floor, between this flagging and the outside of the building is a cellar; but the cellar does not extend under where the cattle stand. The dung and urine all go into this cellar. All the appurtenances in reference to this place are not yet completed. The cellar is to form part of a yard—a firm stone-wall to be made round it. A shed roof is to be attached to the barn, in order to protect the manure from being too much drenched by rains, or dried by the sun and air. An apartment for hogs is made under one end of the building, with an opening connecting with this yard, and here they are to work at composting—the manure from the stock, and such other materials as may be gathered for the purpose, being thrown together to be mixed by them.

Mr. K. has plenty of good water brought in pipes to his stables and yards. This is of great importance, both as to the saving of manure and the well-doing of the animals, yet it is most strangely neglected by many farmers. Where cattle are obliged to go to a pond or stream for water, they do not drink with proper regularity. If the weather is very cold or stormy, they will undergo much thirst before they will expose themselves, and when they do finally commence drinking, they swallow so much that they are chilled through, (the water being frequently but little above the freezing point) and stand for some time shivering from its effects. From the want of water at the proper time, and from the shock occasioned by drinking too much at once, their digestive organs are deranged, and their food fails to supply the proper nourishment. When water is brought to the yards, and the animals have constant access to it, they drink as they need—usually but a little at a time, and their food being taken as appetite prompts them, and with all the functions in healthy action, they derive from it the greatest possible benefit. The manure is all saved, being left in the stables or yards; but when animals are forced to leave the yards for water, much of the manure is left near where they drink, and is washed off where it does but little good.

Economy of using Animal Manure.—From the value which stable or yard manure has been proved to possess, it was with no little regret that we heard its use discouraged, in strong terms, by Dr. D. P. Gardner, in his late address before the Westchester County Agricultural Society. His objections to the use of this article were, chiefly, that it is of little value in proportion to what it is usually estimated at. He referred for particulars to an essay on the "Doctrine of Special Manures," written by him, and published in the *Transactions* of the N. Y. State Ag. Society for 1846. One of the objects of this essay, was, to quote the author's language, to "shake the confidence placed in the foul and expensive manure, so long employed." This confidence was to be shaken, by showing that the manure was of trifling value. He estimates the expense of manuring, with yard manure, an acre of land for Indian corn, in Dutchess county, at $20—allowing twenty loads of manure, of twenty-five bushels each; and in view of this expense, he thinks it reasonable that "the greater part of our intelligent [?] farmers have arrived at the conclusion, that for a man of limited means, the exhaustion of the soil is the most profitable system of farming." He contends that the principal value of common yard or stable manure, consists in the ashes it is capable of affording on being burned. He informs us that the Hindoo, whom he declares is "the most philosophical and successful agriculturist of the present, or of any age," burns the dung which our people "so much prize, and he even cares little for the ashes;" that "the Egyptians, the descendants of the Hindoos, and among the best farmers of ancient or modern times, also burn the dung of their domestic animals." He asserts that "the ashes, and a proper substitute for the nitrogen, will effect the same, or better results on the soil," than the manure. He therefore asks—"Why do farmers still encounter the heavy charge of a dollar a load for the use of yard manure, when they have better substitutes within their reach, for less than a quarter of that sum?"

The value of the ashes of a load (25 bushels) of manure, he estimates at *twelve and a half cents;* the cost of the "proper substitute for the nitrogen" he has not given. It will be seen that the carbonaceous matter of the manure is not estimated as of any value at all!

Dr. G. has not told us, precisely, what he would recommend as a substitute for common manure, but he hints that all the necessary information on the subject, may be found in a manuscript prepared by him in reference to a premium offered by the N. Y. State Ag. Society, but which "was withdrawn from the action of the committee," and is still in his possession. We are therefore without any special data in regard to the comparative expense of the new article; he simply asserts that it would cost less than a fourth as much as yard manure.

In regard to the theory of special manures, Dr. Gardner speaks as follows: "If the doctrine be found correct in practice, it will work a great reform in farming, by enabling us not only to manure at a trifling rate as compared with the present expensive means, but by making it a possible thing to raise the same crop on a piece of land without rotation; by removing the necessity of large farms and expensive fixtures for stock; by enlarging crops beyond any point they have hitherto reached, and lastly, by making agriculture much more a science of skill and intellectual expedients than manual labor."

This language does not differ materially from that used by Liebig in regard to his "patent manure," or a new system of compounding manures, which was extensively advertised several years since, but which, in regard to its profitable application, has generally failed. By adverting to this, however, we only intend to impress the necessity of caution in the adoption of untried theories. Investigation and experiment should be encouraged, but all things should be proved, and the good only held fast.

Fair of the Maryland State Ag. Society.

The third annual exhibition of this society was held on the 23d, 24th and 25th of October, at Baltimore, and was a very successful exhibition, being a decided improvement upon that of last year. The entries in most of the classes were much larger than heretofore, and in some departments the articles were superior. The great attraction in the stock department was the splendid herd of Devons, of Mr. Patterson, numbering 24 head. They were in fine condition, and were a sight well worth a trip to Baltimore to behold. The milking qualities of this herd are well known, and several of the cows exhibited, showed as good milking properties as any animals on the ground. The bull exhibited was, I think, imported, and was an exceedingly good one. Two pair of Devon working oxen were the admiration of all. Mr. P. declined entering his stock for premiums.

There was a very fair show of Short-horns; but not equal in quality to last year. The very fine herd of Col. Capron, which was then sold, did not appear upon the ground, and we doubt much whether it can be made good in Maryland. There was a large show of Ayrshires, and their crosses—some of them very fine, but many of medium quality. The Holstein cattle on exhibition, appeared to be good milkers, and are highly esteemed for their excellent dairy properties. Col. Calvert, the president of the society, informed us that he prefers them to any other breed, and intends to fill up his dairy with them. He has had several of them for some time past, and is competent to decide on their qualities from the trial he has given them.

One of the most interesting features of the exhibition of cattle was a pair of heifer calves, one six weeks and the other seven weeks old, trained by a lad five years of age, a son of Mr. Bailey of Fairfax county, Virginia, formerly of Dutchess county, New York. The little fellow had trained them in about three weeks time. They were so perfectly manageable that when the little yoke was taken off. he could make them perform all that he desired, by the motion of the whip—placing one on the right side and the other on the left, and then changing them—in short, in or out of the yoke they were so trained as to be an object of universal attention and admiration. I heard a remark from a group of gentlemen standing by and witnessing the wonderful performance of the boy—"This is the way, after all, to bring up boys. This little fellow will make a man that will take care of himself." There can be no doubt of this, I think. If he lives, Mr. Bailey's good name will be well honored by his son.

The sheep, with the exception of the Long-wools by Mr. Reybold of Delaware, and Col. Ware of Virginia, were not entitled to much notice. Mr. Reybold's New Oxfordshires were the pride of the show. They are exceedingly fine sheep of their class, and cannot, I imagine, be excelled in this country. One of his fat wethers was slaughtered during the Fair, and weighed 206 lbs., very closely dressed. He received for him $100 on a standing offer of ten years. from Mr. Turner, a Baltimore butcher, and late candidate for mayor of that city. This mutton was purchased by the proprietor of the Eutaw House, who is a very liberal and enterprizing gentleman, and it will, in due time, grace the table of that famed hotel. About ten years since, Mr. Turner offered to give $100 to any breeder who would produce a fat sheep that would weigh 50 lbs. to the quarter, when dressed. On the arrival of Clayton B. Reybold, with his sheep, a day or two previous to the Fair, Mr. Turner saw them, and said to him that he was prepared to give the $100 for the fat wether, as he was satisfied he would weigh 200 lbs. The wether was slaughtered and dressed by Mr. Turner, and although in dressing him, the skin was taken off down to the very hoofs, much closer than is usual, the weight of the carcass was 206 lbs.

The show of horses was larger than last year, and very fair. The Morgan stallion, Black-Hawk, Jr., (a colt by the Vermont Black-Hawk) owned by Col. Carroll, attracted much notice. His figure and action are very superior, and he will add, I doubt not, much to the character of the horses of the State. There were several other horses that were good, and some very fine colts.

The swine were very fair, some exceedingly good; but not, I think, taken together, equal to last year. The Dutchess county pigs of Mr. Wilkinson, of the Mt. Airy Institute, were very fine. The exhibition of poultry was very extensive, embracing almost all the noted varieties, which have turned the heads of our Boston gentry. Some *Capons* were of such mammoth size, that they would doubtless command for *breeders*, (as some of like description have, I understand, at the East) $30 or more per pair!

In the implement department the show was of great merit. E. Whitman's exhibition was one of the largest I have ever seen, and Sinclair & Co.'s was nearly equal, and two or three others very fine. In fact nearly, if not quite, one-fourth of the ground was occupied by their implements. Very many of the articles were of the best of our northern manufacture, and I was pleased to learn that many sales of improved implements took place.

The plowing match was a very interesting scene: Twenty-three plowmen entered the arena, and thousands of spectators were in attendance. The ground was not such as to fully exhibit either the skill of the plowmen, or the perfection of the plow—still the work was well done by many of the competitors. Prouty & Mears' No. 5½, received the award for the best plowing—being one of the plows which received a first premium at the N. Y. trial.

On the last day of the exhibition, an address was delivered by Willoughby Newton, of Virginia, a highly intelligent agriculturist. It was every way worthy of the cause and the speaker. P. A. Browne, Esq., of Philadelphia, gave interesting statements of his experiments in relation to wool, which were listened to with much attention. The attention shown by the officers of the society to strangers who were present, was what might have been expected from the known hospitality of the gentlemen of Maryland. There were in attendance a large number of gentlemen from Virginia, Delaware, Pennsylvania and New-York.

I have omitted to mention the show of *hams*. Twenty competitors contended for the prize, and the superiority of the hams exhibited, over any in our market, was most apparent, and I hope some means may be adopted to bring up ours to the standard of Maryland and Virginia.

The show of fruits, vegetables, flowers, fancy articles, &c., was very creditable to the society.

On Friday evening an election of officers took place, when Col. Calvert was unanimously re-elected president, and consented to serve. He is truly a valuable officer, whose services cannot well be dispensed with.

From the Maryland show I proceeded to Delaware, and had an opportunity of examining the splendid farms of Maj. Reybold and Sons, and others in that vicinity, among which was that of the Hon. J. M. Clayton, who is now most successfully devoting himself to the management of his farm, and I may, if time allows, give your readers some account of Delaware farming, and tell them of forty bushels of wheat to the acre, and of more than 3000 bushels from an 100 acres, raised by one farmer! B. P. J.

Irrigation.

During the late exhibition of the Royal Agricultural Society, a delegation of the officers, members and others, among whom was our countryman, L. G. Morris, Esq., of Westchester county, N. Y., visited the farm of Mr. George Turner, near Exeter, for the purpose of examining the Water meadows belonging to that gentleman, and which are noted for their productiveness. Mr. T. explained his management to the company, and it was reported somewhat in detail. We extract the following from the printed account. The remarks are worthy the attention of our readers:—

The process by which boggy, or comparatively useless fields, are converted into verdant and luxuriant meadows, bearing very heavy crops of hay, and also affording admirable pasture, is, first of all, thoroughly to drain the land. The land is then allowed to remain for two years, to consolidate. If it be a heavy piece of land, it will probably be broken up, and laid down with fresh and well-selected grass seeds. After one year's grass, if the land be pretty well drained and seeded, in the following or second year from the time it is laid down, the water gutters are cut, and the water let in at the proper season. The proper season is from about Michaelmas till Lady-day; but Mr. Turner entirely objects to summer irrigation, as forcing the land too much, and as calculated to give the sheep, who then depasture upon it, the rot. In the hill-side meadows, the gutters (about two feet broad and three inches deep) conduct the water from a spring on the upper part of the hill-side, in a lateral, but oblique direction, with a gentle fall across the face of the hill. At the opposite side, but so arranged as to leave a considerable interval between each main gutter, it turns, and brings the stream back, at a lower point, across the face of the hill again, and somewhat parallel with the first line, but still descending, when it again turns, and so on till it reaches the bottom, when it is applied to the meadows on the flat, if required, and the excess carried away in its proper channel. Across these gutters, at proper intervals, are placed dams, which restrain the current from proceeding till it can surmount the dam, which it is not able to do, till the water attains a sufficient height to compel it to overflow at the lower side of the gutter, throughout its whole length. The water thus streams over in a continuous but gentle sheet all adown the meadow, thoroughly saturating it, and conveying its nourishment and fertilizing power to all the grasses. Where requisite, from obstructions arising from inequality of surface, &c., small gutters are cut transversely from the main gutters, to supply those portions of the field which would otherwise be left partially, or entirely, without. This is continued for a fortnight or three weeks, according to circumstances. When the water is turned off, the grass is allowed to grow till about March, when it is depastured generally with ewes and lambs, which, after feeding luxuriously below, are then driven to lie in the upper or unirrigated part, which their droppings and manure render as fertile as the part which is irrigated—one acre thus irrigated being deemed sufficient to maintain another adjoining unirrigated acre in the best condition. After a sufficient interval, the water is again turned on, and so the process is repeated, according to circumstances—viz, the quantity and quality of the water, the condition of the land, &c., till the season for irrigation expires. From the extreme value of the pasture, and the weight of the hay obtained, it is calculated that this process, at a very small expense, soon renders the land worth at least double its former rental.

From the opposite hill-side Mr. Turner pointed the attention of the company to his own fertile meadow in the bottom, and, a short distance off, to a field similarly situated, in which was growing a scanty crop of mangolds, intermingled with swedes, which had only quite recently come into his possession, and which had been drained in preparation for the same process of irrigation. Two years ago a dog could not walk across that field; but in a very short time he expected to make it equal to his best bottom land, which was formerly in a similar condition. The three acres, properly irrigated, which they saw below them, kept the five acres on which they stood, in the way before described.

In reply to a series of questions and observations, Mr. Turner said that, practically, he had never found the water diffused by irrigation settle and swamp the land; that in relation to grass seeds, he always made a point of getting the very best; that in Devonshire there existed a great variety of soil in immediate contiguity. He could show them valleys where the land on one side would be worth £2 per acre, while on the other it would hardly be worth more than 2s. an acre. That, according to the rent of the land, he belived no man grew more beef, mutton, corn, or food than he did. Some persons said, "Oh, such a man is a good meadow farmer, such a man is a good tillage farmer, such a man is a good breeder," &c.; but he did not consider any man a good farmer who was not a good meadow, tillage, and stock farmer combined. It was the adaptation and proper and economical rotation in every department, that made the truly good farmer. (This observation gained general concurrence, as did also another, made by Mr. Turner, as follows): "Remember, gentlemen, that *the artificial watering of meadows robs no dunghill; on the contrary, it raises one for the benefit of other lands.*"

Mr. Mechi and other gentlemen made several observations on the use of artificial manures; in reply to which Mr. Turner generally stated that he did not profess to be a scientific chemist, nor any more than a practical man, whose practice he explained to them, and of the results of whose practice their own observation would enable them to judge; and proceeded to urge upon them strongly the advantage of availing themselves, where practicable, of the less costly fertilizing principles of water. The average cost of preparing land for irrigation varied greatly, according to the nature of the land, supply of water, &c., perhaps from £2 to £3 or more, per acre. The subsequent cost of use, &c., was but trifling; not more than 5s. a year per acre.

Some difference of opinion was expressed on the part of several visitors, as to the advantage to be gained by denying the land water in the summer, and it was urged by some that the water might with advantage be turned on after mowing.

Mr. Turner replied that in 99 cases out of 100 summer watering was found, not only to be of no use, but a positive injury; then (pointing to the water, which having been turned on into the hill side-gutters was diffusing itself over the whole meadow below, making its surface quite plashy) said, he had, in order to give them occular demonstation, turned on the water to the perhaps but slight detriment of the land, but he should be sorry to repeat the experiment. He then explained that by summer watering the land became exhausted, being pushed beyond its natural strength.

Mr. Turner expressed a general opinion that it was unwise to make such an attempt to thwart nature. One effect of summer watering would be to rot the sheep that fed on land thus watered. He remembered that many years ago, when he was but a little boy, his father bought many rams from the celebrated Bakewell, of Dishley. Now, Mr. Bakewell had a great objection to others getting hold of his breed, especially in any irregular way, and at certain periods of the year the butchers would come to buy his sheep, intending really to breed from them. In order to prevent this, a short time previously to the sale, he would irrigate his meadows from an old mill stream, turning on the sheep, and then say to the disappointed butchers, "Gentlemen, you may try to breed from my sheep if you will, but, I warn you, if you do they will have the rot."

On its being put to Mr. Turner, whether, in very dry summer weather, it might not be desirable to water artificially, he said his experience was against it. They might force grass, but to the average and permanent injury of the land.

In relation to those who were inclined to commence irrigation, he recommended them to have a man who understood the subject, to put their land into proper order. As to the levels, they should be such as to produce a gentle rippling current. To allow the water to stand still would be injurious to the land.

In reply to renewed questions, Mr. Turner said, the period of continuous watering, during the irrigation season, must depend chiefly on the condition of the land, and the goodness of the water. If the water were warm and forcing, the period would not be so long. There could be no specific rule; from one week to one month was, perhaps, the two extremes. In conclusion, he must impress upon them all, as the great value of irrigation, that every acre of land thus watered was equal at least to the maintenance of another acre; and that every thousand acres of land, judiciously irrigated, would give an increased rental of a thousand a year by means of that irrigation. It is estimated that there are half a million of acres irrigated in Devon—which, therefore, represents an increased rental of £500,000 a year, over what the same land would fetch if it had remained without irrigation.

Letters from Prof. Norton—No. 12.

Notes of a Tour in Central New-York.

Analytical Laboratory, Yale College,
New Haven, Conn., Nov. 4, 1850.

Messrs. Editors—It may be remembered, that in my last letter, when mentioning the various improvements made by Mr. Jos. Watson of Clyde, I referred to a specimen of marl from his reclaimed swamp, as undergoing analysis in my laboratory; the analysis has since been completed, and has given me a high idea of the value of the marls in that section, of which I suppose this to be a fair sample. It contains a remarkably large per centage of carbonate of lime, and also traces of potash, sulphuric and phosphoric acids. These last, although in small quantity, add most materially to its value, and confirm me in the opinion, that these marls are one day destined to be of immense importance in the agriculture of this region. If the present race of farmers find no use for them, or for the swamps under which they lie, they may rest assured that those who come after them, will not always labor under the same delusion.

The exhibition of stock, implements, fruits, &c. at Clyde, was very creditable, and when the hour for the address came, I was greatly surprised, it being a very rainy day, to find the church quite filled by an audience that proved remarkably attentive, and that seemed disposed to consider the subject of the address—a special agricultural education, as one which deserved their most serious consideration.

In coming up from the head of Sodus Bay, with Mr. Watson, he directed my attention to the line of the proposed Sodus canal. The excavation has been in a great degree completed, by the ingenious method of damming a stream which runs through a natural hollow in a straight line to the head of the bay, and then allowing the accumulated water to sweep down, bearing of course a large quantity of material torn from the banks with it. By a repetition of this process, a large channel has been swept out, so that little remains but to build locks, and shape the banks. This canal will drain quite an extended tract of heavily timbered swamp, which, when dry, will make farms of the very richest description.

Near Clyde, we called for a few moments on Mr. Mackay, whose nursery and selection of fruit is well worthy of a longer visit than the closing day permitted us to make; he has a considerable assortment of the rarer fruits, shrubs, and flowers, and all in a highly thriving condition.

From Clyde I went to Palmyra, on the canal, taking the packet by way of variety, in these days of railways and steamboats. I found it even slower than I had expected, and was quite content to stop at Palmyra, after a voyage of about 24 miles.

This beautiful village reminded me more in its appearance of Massachusetts or Connecticut, than any place that I saw in New-York. In company with Mr. Pardee, the active and intelligent secretary of the society, I made an excursion from Palmyra to the shores of Lake Ontario, at Pultneyville, passing through Marion on our way, and returning through Walworth. This is a superb country, with wonderful natural advantages. The cultivation is in several respects improving; there is a general air of increasing neatness about the fields. Attention seems to be paid to the eradication of weeds, on many farms. The buildings too, bear marks of improvement and thrift. Many of the farms are however, evidently running down, and I heard of some that were almost entirely worn out. The new farm houses in all this section, are very generally built of small rubble stone, faced with regular round or oval ones, brought from the shore of the lake, where they have been worn smooth by the action of its waves. This style of house seemed to me very appropriate for a farm-house, neat, warm, and solid, with a very comfortable, substantial look.

It speaks well for the farmers of this section, that in this drive of about 40 miles, I did not see a single field of corn that was topped; it was all cut close to the ground, and was uncommonly heavy. Mr. Pardee, who has extended opportunities for forming a correct judgment, thinks that the average yield of wheat per acre in this part of the country, has rather increased; though very great numbers farm on an exhausting system, they have learned to sow deeper, and thus to root the young wheat well so that it is not so liable to winter-kill. This improvement will not be a lasting one, if the farmers persist in their exhausting system, and will in that case soon cease to produce any such marked effects as it did at first.

This county is remarkable for fine fruit, and for the extent to which it is cultivated. In an address delivered to the county society a year since, by Mr. Pardee, he brought forward facts to prove that Wayne county exceeded all others east of it on the line of canal taken together, in the amount of fruit shipped for market, both in a dried and fresh state. I saw many orchards that bore evidence of care and skill in their management, and some of them were very remarkable. There was one large orchard that we visited, some ten or twelve miles from Palmyra, the proprietor of which was absent. His name I have unfortunately forgotten, and I regret this the more, as it was in the most healthy and flourishing state, of any large orchard that I ever entered. The trees were all young, just coming into bearing; the varieties being Russets, Greenings, Baldwins, and a few other standard kinds. I picked the largest Russett from one of the trees, that I ever saw. The trunks of all these trees had evidently been washed with a weak lye, or some preparation for cleaning the bark, as it was in a wonderfully smooth, silvery, thrifty state; presenting such a sight as, I will venture to say, can scarcely be surpassed in any country.

In the town of Walworth, we visited the farm and nursery of Mr. Theron G. Yoemans, and found it well worthy of attention. It is an instance of what enterprise and sagacity, may do with this land. We saw there peaches, plums, pears, apples, and cherries, all from 3 to 5 years old only, but wonderfully large for their age, and bearing most luxuriant crops of superb fruit, unsurpassed in size and quality. Mr. Yeomans commenced with but about 18 acres, on a small scale, as in my opinion every beginner should, and has gradually increased as he has improved, until he now cultivates about 50 acres. The original 15 acres, were first dressed with about 70 loads per acre of muck, and leached ashes, in equal parts. The latter came from an old ashery, where they had lain neglected for years. This accomplished, the next step was to drain the whole tract; it lay on a hill side, and was generally considered dry. There was however in reality, a number of springs which made the ground wet and springy in the early part of the season, and in winter, so that the roots of the young trees were liable to be thrown out and lifted. His draining has been done with tiles of the horse shoe and pipe varieties, mostly of the latter, laid at a depth of three feet. They are made at Waterloo, Seneca county, by the machine imported two or three years since by Mr. Delafield. The 30 or 40 acres which have been added to the original 15, are now under process of drainage. They had heretofore been thought dry, but the drains laid have already run full of water several times, and an improvement in the land is already beginning to show itself most decidedly. Mr. Yoemans has laid 14,000 tiles this season, and is still going on.

The principal object in the cultivation of this farm is fruit, and carried on in the way that I witnessed, on such a soil, and under the influence of such a climate, it can scarcely fail of success. While Mr. Yoemans has thus commenced a liberal and enlightened system of management, he has not neglected matters of general utility, and the neighborhood bears ample testimony to his public spirit. Among other things, he has offered a premium of about 50 cts. for each shade tree that may be planted along the road side within the village limits, and shown to be healthy and thriving at the expiration of three years. In consequence of this offer, some 900 trees have already been set out, and will be well cared for during the next two or three years of course; they will then have obtained such a start, as to grow without farther care. It will be an inestimable benefit to the village of Walworth, and one which its inhabitants some thirty or forty years hence, will fully appreciate. Mr. Yoemans will I trust, excuse me for having spoken so much at length of his proceedings, but I think that such examples as his, are just those that practical farmers ought to become acquainted with.

The fields in this part of the county look older, and more carefully cared for, than the generality of those in the Eastern section. The country has been long settled in comparison with the east end, and consequently has a less rugged and newly settled appearance. Many of the fields however, seem to be much worn out by a defective system of cropping, and nearly all show need of the various remedies which Mr. Yoemans has so abundantly applied to his land. The cultivation here is as I have said considerably neater, and the roads cleaner, than in the other end of the county; the houses are also generally larger, and more substantial. These are however simply the advantages of an older country, and in my opinion they will have to work hard in order to maintain their superiority, as their rivals are pushing on rapidly in this friendly strife. Yours truly, John P. Norton.

Kirtland's New Cherries.—Dr. Kirtland states that out of the new cherries which he has originated, there are some thirty or forty which will range as high as the American Heart. None are as early as the purple Guigne. The *Doctor*, one of the earliest, he states, comes in with the early White Heart. We have found it a trifle earlier.

Protection to Wool-Growers.

Editors Cultivator—My article in the September number of the Cultivator on the subject of Foreign and Domestic wool, was written amid the pressure of other business, in great haste, from a mass of facts on the subject, which in private correspondence and official documents had been accumulating on my hands, during the many years I have been connected with the wool question; and here, permit me to say, a question, whether we regard the immense amount of the investment or the numbers interested, unsurpassed in importance by any single subject that can be presented to the consideration of Congress in the adjustment of a tariff. Whether such an event is to happen immediately or at a distant day, it is a bad policy, to wait till the horse is stolen before you lock your barn, as was the case in 1842.

In that article, (which an able writer in your November number over the *assumed name* of Titrius *a wool grower*, has been pleased to notice with great courtesy,) I endeavored to embody a mass of facts which I deemed vitally essential to a fair adjustment of a practical and useful tariff on wool. How necessary a knowledge of the most simple facts is, to the majority of politicians and professional men, who compose Congress, is aptly illustrated by the fact, that Congress in '42 regarded flax-seed and linseed as two distinct articles, and accordingly in the tariff, made them subject to widely different rates of duty, which ridiculous ignorance, any unlettered farmer could have enlightened.

Titrius, notwithstanding his great interest in the wool question and confessed obligation to me, seizes upon a purely incidental remark on the subject of Scotish Black faced wool, (which is a mere incident with the grower, the mutton being the main object) and ascribes to me the advocacy of a sentiment conflicting with the whole tenor of my article which I never have and do not advocate, to wit, that of discriminating duties on wool according to the different fabricks, into which it may be manufactured. This would be impracticable, if not impossible, as the wool of the same fleece, is often made into fabricks of very different value with wool of an entirely different character. Had Titrius written over his own name or addressed me a private letter, as many wool growers have done, I have no doubt with his kind feelings, the fervor of his gratitude and deep personal interest in the subject, we might have arrived at a mutual good understanding, without his giving battle to a man of straw, or my appearing again in print.

As I have nothing to do with the duties on fabricks into which wool may be manufactured further than their manufacture creates a demand for wool, I will now simply say, that Titrius is mistaken five per cent in the duty on the fabrick to which he alludes, and notice more particularly his last paragraph, in relation to the struggle in the passage of the tariff 1842, on the wool clause. With this struggle I was not an entire stranger or a careless and uninterested observer. The samples of wool used in both houses of Congress and before the committees, to illustrate the subject were furnished by me, in relation to which Ex-Gov. Slade, then in Congress, in his letter to me says, "they *were used to good advantage*" before the committee of ways and means, who were induced to report an amendment to their bill before the committee of the whole in the house, of five per cent duty on coarse wool costing less than seven cents per lb. &c." Also the facts quoted in behalf of the wool grower in both houses were credited to the paper I then had the pleasure to edit.

This paragraph appears to me to originate in a misapprehension of the nature of the struggle in '42, and calculated to prepare the way for further injustice to the wool grower; in short, to be just such as a defeated advocate of the now exploded maximum principle, would pen in the last resort, to secure the next best object to the advocates of free trade in wool—to wit: a low, indiscriminate duty on wool, so high, as nearly to exclude the coarse hairy wools which we do not grow, yet so low, as to admit the whole mass of *rival wools*, at a cost here which will enable them to control the price of domestic wool in the home market; too low for the purposes of revenue, incidental or direct protection, and far below what the farmers of the country have a right to demand in return for the payment of 16-20ths of the millions raised by the tariff to support the government. It is not to be winked out of sight that, 82-100ths of the whole population of the United States are agriculturists, and that no class consume more dutiable articles, according to their numbers and the amount of their individual business, than they. They are the principal consumers of all the protected products of our manufacturers, yet no class on account of the great superabundance of the products of our agriculture, receive so litte encouragement or aid from the tariff. Then let Congress do all it can for them in a tariff in this *vital* matter of wool, and go even beyond the revenue standard, (even the most scrupulous for justice's sake, need not hesitate,) they will still labor at the shortest end of the yoke and receive a mere pittance from the general government compared to the aggregate amount of their contributions to its support.

Titrius says—it was the attempt to discriminate between the different kinds of wool to be applied to different objects, which produced the greatest mischief to the wool grower in 1842.

Now, I say there was no such attempt or issue in the passage of the tariff of 1842, as Titrius believes, and those who believe it do not and did not understand the game the advocates of free trade in wool were playing, under the guise of the maximum principle, adopted in the tariff of 1832—which admitted all wool costing abroad eight cents or less per pound, duty free. So little was then known on the subject out of the circle of importers and manufacturers, that it was not even imagined in Congress or out of it, that this tariff would virtually establish *free trade* in wool, but when I established the fact in 1841, that fourteen and a half millions out of a little rising fifteen million pounds of wool, were imported duty free, supplanting every grade of domestic wool in our own markets, the wool-growers were alarmed, the agricultural press came to the rescue, a few members of Congress caught the glimmer of the new light, a struggle arose between those who wanted free trade in wool and the wool-growers. The whole issue was made up on the maximum, which drew no line of discrimination between the kinds of wool and the fabrics into which it might be manufactured, but between *free trade* and *protection*. So great was the influence of adverse interests, and so small the information on the subject in Congress, that all the bills, when presented to Congress, adopted a maximum, high enough to establish virtually, free trade in wool. However, the Committee of Ways and Means, at the last moment, imbibed a little light, and were induced to report an amendment to their bill, subjecting *coarse* wool coming under their maximum to five per cent. duty. The word COARSE, which was not in the tariff of 1832, with the provisos in the bill, it was contended by the advocates of free trade in wool, would be an abundant security to the wool-growers, while *they* contended the word *coarse* and the proviso, would be inoperative in the construction of the act, and the sheep husbandry in the United States would progress from bad to worse, under the proposed tariff, all of which has been too sadly realized.

Thus the whole struggle in 1842, was for substantial free trade on the one side, and just and equal protection on the other. The free trade in wool prevailed, losing no ground in the struggle save the trifling amendment of the Ways and Means. Well, the tariff of 1842 went into operation. From the ingenius phraseology of the bill, the word COARSE proves to be all a humbug, and without meaning —over 29-30ths of all the wool imported, came in subject to five per cent. duty—about one-eighth as much as the duty on woollens. The importations rose up by 1844 to nearly 25,000,000 pounds, and in 1845, to rising 28,000,000 pounds.

Now I would ask what there is in all this that has even the semblance of a discrimination between different kinds of wool to be applied to different objects? Does the issue on the maximum, for its rejection, reduction, or the substitution of an ad valorem duty as high on wool as woollens, establish the fact? No such thing. The whole issue was free trade or not. Certainly the maximum could make no such discrimination, when all the South American wool could be purchased abroad from one to four cents per pound less than the maximum of seven cents. It is true, that the friends of the wool-grower in Congress, with a faith founded in darkness, thought if they could reduce the maximum, they could subject more *rival wools* to the higher rate of duty established in the bill, but they soon found that they were completely over-reached, and that there was no fact in commerce better established, than that the *coarse, hairy wools* of Crimea, Odessa, Calcutta, &c., *cost the same abroad* as the fine and beautiful wools of South America, east of the Andes.

This fact was established beyond contradiction, in my last; having *then* reliable information that a project for a new tariff had been made at Newport, R. I., by certain eminent politicians, about twelve months previous, designed to be substituted for the present tariff, at the first convenient opportunity, by which free trade in wool was again to be established under the guise of the maximum principle; I set forth this fact distinctly and beyond doubt, so that all could see that a maximum could have no office in a tariff on wool, save its old office of humbug, deception and ruin.

That I made a discrimination between *rival* wools which supplant our own, and the coarse hair wools, which do not, is true, in order to show that the maximum cannot be applied to either, as a rule of discrimination between coarse and fine wools, and also, that unless such a discrimination as this is made in a tariff, it will be found to be impracticable, as it regards both the revenue and incidental or direct protection.

Titrius, would not subject fine and coarse woollens to the same rate of duty—say \$2 per yard. This would exclude the coarse fabrics, costing \$1.50 and under per yard, (the article most wanted,) and be no restriction on the importation of broad-cloth worth \$5 or \$10 per yard, and would defeat the purposes of revenue. This is precisely the case with the present indiscriminate ad valorem of 30 per cent. on all wool. If, it is a fact, I believe it does not admit of a doubt, that the coarse hairy Crimea and the Buenos Ayres cost abroad the same, (though the Buenos Ayres will produce three times as much as the Crimea,) then both pay the same amount of duty per pound, which is as absurd as to subject a \$10 and

$2 broad-cloth to the same amount of duty per yard.

Now, I would ask Titrius, as a wool-grower, what rate of duty he would put on the *rival wools* of Buenos Ayres, Montevideo, Cordova, &c., rivaling every grade of wool grown in the United States, and coming to the cards from 12 to 20 cents per pound cheaper than our domestic wool, and costing about six cents per pound? Why, he would answer me as did a distinguished wool-grower and member of the present Congress—why, sir, 100 per cent. would not be equal in its effects, to the duty on woollens. Now apply this rate of duty, or any just rate of duty on fine or rival wools, to the coarse hairy wools, and you exclude their importation at once, and destroy a demand for our long worsted wools manufactured with them in about equal proportions. You defeat all revenue from this class of wools, and discourage the introduction of the large long-wooled mutton sheep, very desirable in our more populous States, where mutton as well as wool is an object with the farmer. *Now, on the other hand*, if you adopt a low, indiscriminate ad valorem duty, *so low* as to raise revenue from the importation of these coarse hairy wools, you will flood the country with all kinds of wools and ruin the majority of the sheep farmers in the United States. This would not be true, did the price of wools abroad generally imported, correspond to their quality, value and fineness, as imported articles generally do.

Hence, in my humble judgment, we are reduced to the necessity of either a general ad valorem duty on all wools, on *their home valuation*, or two rates of ad valorem duties corresponding *to the qualities of the wool* and the degree to which they compete with and rival our domestic wools in our own market, or else wool-growing in the United States will continue to be, what wool-growers *know it has been, a bad business*. I am, with great consideration and respect, your obedient servant, H. C. Meriam. *North Tewksbury, Nov. 7th*, 1850.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Successful Treatment of Young Trees.

We gave, last spring, some account of the successful management of newly transplanted fruit trees, furnished by Jonathan Talcott, of Rome, N. Y. Not one tree in a hundred was lost, and the growth of many of the shoots on the apple trees the first season, was 15 inches to 2 feet. This success was mainly owing to large holes filled with fertile soil; careful transplanting; shortening the shoots at the time on the tops of the trees; and clean, enriching, and mellow cultivation, and mulching. He has recently furnished the following additional remarks on the treatment of his young orchards:—

"Last spring the ground was plowed and planted to hoed crops, the manure about the trees was spaded in, and they have been hoed twice. The results have been most promising for a beginner, and encouraging to those in this vicinity who are setting out fruit trees. I find they have grown from *one to more than three feet* the present season, forming fine heads. When I came to the conclusion to set out an orchard, I made up my mind that I would take care of my trees, and have endeavored to do so to the best of my knowledge. Thus far the result of the experiment has been satisfactory.

"I have just been scrubbing the trunks with soft soap diluted with water, tying them up for winter, removing the eggs of insects, &c.

"About 100 trees set last spring have made an average growth of about 15 inches each. A part were mulched with oat straw, a part with coarse straw manure, and another portion were mulched at all. The result was most conclusive in favor of the mulching."

The Best Strawberries.

The experiments which have been made in all parts of the country are greatly assisting in the determination of the best sorts for general cultivation. The results of different cultivators under the various external circumstances of soil, locality, &c. must always be interesting.

Lewis F. Allen, of Black Rock, N. Y. remarks in the Horticulturist, "In the plantations of an acre or two which I am about making [founded on previous trial] my chief stock will be the *Large Early Scarlet*, *Burr's New Pine* and *Rival Hudson*, with a few *Hovey's Seedlings*." The Large Early Scarlet, he says, is "the best berry *for a crop*, probably, taken altogether, that we have." Twelve square rods, with ordinary care and some drawbacks, gave 260 quarts. Hovey's Seedling, "coarse in flavor, 'a tolerable bearer,' not fit for a crop." Boston Pine, a good fruit, but stem too short. Burr's New Pine, "splendid, early, prolific, highest flavor." Rival Hudson, "the most prolific—the most beautiful *growing* berry, on a *high* stem—fine rich flavor." Black Prince, "color bad—flavor insipid, or sour."

H. E. Hooker, an extensive and skilful cultivator at Rochester, says, "The best to *my* palate, are *Burr's New Pine, Large Early Scarlet* and *Hudson*; and for a late berry, *Crimson Cone*; but tastes differ." Boston Pine is pronounced very productive, but inferior in flavor.* Black Prince, the same. Hovey's Seedling, large, beautiful, of second quality. Burr's New Pine, large, beautiful, fine, productive. Large Early Scarlet, very productive, one of the best, good for marketing. Hudson, good flavor, firm, excellent for market. Crimson Cone, beautiful, fine flavored, late, very vigorous."

At an examination of 37 sorts made at the grounds of L. C. Eaton, of Providence, R. I. by a number of gentlemen, the following were selected as the best, viz: *Hovey's Seedling*, *General Jaqueminot*, *Jenny's Seedling*, *Burr's New Pine*, *Rival Hudson*, and *Hudson Bay*. The New York Hudson Bay, the Cincinnati Hudson, and the Hudson Bay of Rhode Island, were pronounced distinct, the latter being decidedly the best. The General Jaqueminot was regarded as unrivalled,—large, firm, hardy, vigorous, productive—fruit stalk high and strong.

Dr. Kirtland, of Cleveland, Ohio, states that *Hovey's Seedling*, *Willey*, *Burr's old Seedling*, and a variety of *Hautbois*, can be so managed as to give an abundant succession of fruit for five or six weeks. He remarks, "Experience has satisfied us that four-fifths of the varieties which have been introduced to public notice, are in nowise superior to a few old favorites, and many are entirely worthless in this vicinity."

G. W. Huntsman, well known as a successful strawberry culturist of Flushing, L. I., places *Burr's New Pine* at the head of the list, as being "decidedly the most desirable strawberry in cultivation." He ranks *Hovey's Seedling* next; then

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* How tastes differ—a person, accustomed to eating the best strawberries, preferred, this year, the Boston Pine for its excelling flavor, even alongside Burr's New Pine and Swainstone.

Boston Pine and *Large Early Scarlet*; and the *Crimson Cone* as a valuable market fruit.

Thinning Fruit.

The New England Farmer observes in relation to thinning fruit:—"One peach grower informed us that he had taken off two-thirds of his peaches, and as they increased in size, and appeared too thick on the trees, he said he was sorry that he had not taken off one half of the other third. One man complained to his neighbor, that a certain variety of the peach which his friend had advised him to cultivate, was a poor bearer. 'Stop your complaint,' was the reply, 'until you sell your fruit.' He raised on one tree three dozen of peaches, sold them at two dollars per dozen, and was satisfied."

This, it is true, was an extreme case, but the evils of overbearing, contrasted with the benefits of thinning, can only be understood by actual trial. The cultivator may be aware that, by reducing the number, one hundred specimens may fill his basket, where two hundred were required from an overloaded tree, but until he actually tastes and compares the two products he cannot appreciate the incomparably superior quality of the former.

Many are deterred from thinning their fruit by the slow and tedious nature of the operation; but a very expeditious way more particularly applicable to the peach, is to *shorten in the shoots*—cutting off one half or two thirds of all one season's growth. Where trees have been neglected for several years, and are beginning to extend their branches into long bare arms, the shortening back should extend to larger portions of the branch, until the tree is brought into a more compact shape. We have on former occasions more particularly pointed out the nature of this mode of treatment, but we wish now to urge the necessity of its timely performance. The earlier in winter it is attended to the less will be the liability of its omission. We have found it to succeed quite as well even if performed by mid-autumn as when left till spring.

Horticulture at Cincinnati.

At the same time that the American Pomological Congress at Cincinnati did not prove to be quite so successful a convention as had been hoped, the exhibition of fruits, &c. by the *Horticultural Society* of that place, appears to have been of a very imposing character. The following account is furnished by the Genesee Farmer:

The brilliancy of this exhibition took us quite by surprise. We expected something fine—we were aware that the most liberal arrangements had been made, and that there was abundant material in that city and vicinity, for a grand display; still, as we have already said, it took us completely by surprise, so admirable was it in all its parts. We felt fully compensated for our journey, with the gratification it alone afforded us. We have seen some of the best shows that Philadelphia or Boston has produced; and although this was defective in the display of pears and foreign grapes, yet, as a whole, considering the articles exhibited, the arrangement, &c., we consider Cincinnati up to, if not a little ahead of either; and this is saying a good deal.

The show was held in a splendid hall nearly one hundred feet long and fifty feet wide. On either side was a table, the whole length covered with fruits—not *little, shabby, half grown specimens one of a kind*—but superb dishes of those magnificent golden and crimson fruits of the west—Fall Pippins as large as a man's head, and peaches that would almost weigh a pound. What a display of fruits!* The "Queen City" and the "Mighty West" might well be proud of it. Then, in the center of the room were three tables, with a walk between each, filled with flowers, flowering plants, and floral designs. The center table was appropriated to the design and taller plants. At the end of this table, just opposite the entrance, was a decorated arch, supported by two columns, mossed and ornamented with flowers, and with nuts of the Buckeye. The words "Buckeye welcome" were tastefully wrought on the arch, with the nuts, and on the top was the American eagle. This tasteful object was the handiwork of the Misses Orange, and sold, we understood, for the sum of $50, at the close of the exhibition. There were many other very beautiful designs, by Mrs. Wm. Heaver and others. At the farther end of the room we noticed a villa residence in miniature, the grounds all laid out and planted with much skill and taste; and, just opposite, a very pretty design of a flower garden, laid out and planted. The two side tables were occupied with smaller plants, dahlias, &c. Messrs. Jackson, Heaver, Sayers, and others, exhibited pot plants, many of which were new and rare, grown in the best manner. Indeed, we think they would do credit even to a Chiswick fete. A better collection of pot plants, and better specimens, have, we are very confident, never been exhibited together before in this country.

The liberal management of the Society brought out this grand display, and it was well rewarded. We were glad to see the great hall filled—thronged—evening after evening, and every visitor go away delighted. *One thousand dollars* were received at the door, and six hundred dollars were received at the sale, making $1,600 receipts. We congratulate the officers and members of this very excellent Society on the success which has crowned their efforts on this occasion. It affords them great encouragement for the future.

Fruit Memoranda.

Grafting old apple trees.—Some persons, I have noticed, in grafting old trees put in as many scions at one time as they think the tree ought to have. The next year they trim off all the original branches and leave the bare limbs with one year's growth of the scions at the ends. This causes a rapid growth of the scions, rendering them liable to be broken off by the wind, and as they cannot take up all the nourishment furnished by the roots, shoots start out all over the trees which from their number are very troublesome. *Thomas's American Fruit Culturist* shows a better way, which is, to begin at the top and graft a third of the tree a year till it is completed. This does not throw all the nourishment of the tree up to the scions at once; and they start better, from not being shaded by the foliage above them, when the top is grafted first. From the same source we learn, that "instead of cutting off large branches and grafting them at once, it is better to prune the top in part which will cause an emission of vigorous shoots which may be grafted with ease and success." I have seen trees that had begun to decay, grafted on the old branches and the failure showed the folly of such work.

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* Having been unexpectedly prevented from seeing this exhibition, the writer has been favored with a glance at some of its specimens, through the kindness of A. H. Ernst and Dr. S. Mosher, by the present of a fine collection of fruits, some of them quite exceeding in size and beauty any to be found even in the fertile regions of Western New York. Ed. Cult.

Pruning grape vines in summer.—It is thought necessary by some, to cut off the ends of the shoots of grape vines in summer, in order to facilitate the growth of the grapes, or that the sun's rays may fall directly upon them. The following from the *Fruit Culturist* will set this matter right. "The summer treatment of grapes consists chiefly in thinning the shoots where there is danger of the leaves becoming crowded; thinning out the bunches; and, on exotic sorts, thinning out freely the berries. The frequent practice of nipping off the ends of the shoots, just above the bunches, when the grapes are as large as a pea, lessens their subsequent growth. For all fruits grow and ripen best when fed from a good supply of well grown but not crowded leaves, hence the foliage should not be lessened, nor the shoots shortened, until they interfere with each other's full development." p. 393.

That seedling grape.—In the Cultivator for 1844, page 382, is noticed a seedling grape obtained of G. B. Emerson, Esq. of Boston. It is represented as about the size of an ounce bullet, perfectly hardy, the flavor richer than the Isabella, and ripening about a month earlier. Such a grape would be very desirable for this climate. Do any of your readers know any thing about this grape or where it may be obtained?

Another seedling.—A gentleman of this town has a grape vine which sprung from a raisin seed. It is now about five years old, apparently hardy, and, I should think, a slow grower. It has blossomed, but never fruited. It is uncommon to raise vines from foreign seed, in this part of the world, at least, and if the owner of *that* vine expects it will ever ripen fruit, I "rather guess" he will be mistaken, unless he gives it some kind of protection,—and then he may. W. L. Eaton.

Apple Trees from the South.

Fruit trees, of most kinds, taken from nurseries along the sea-board and replanted in Vermont, have, in most instances, met with ill success; so much so, that all "Southern trees" have been regarded with disfavor. But the fact is now well established, that those trees re-set in these parts, which were propagated in the nurseries on the banks of the Hudson, are hardy, and thrive better than most of the trees from our nurseries.

Mr. Henry C. Hunt, of New Haven, has a fine orchard of trees from the Hudson nurseries that are equal in hardihood or thrift to any standard trees that I ever saw in any part of the State of New York, and superior to any that I have seen reared in this State.

Most of his standard trees, set last spring, have this season grown two feet *from the end bud*, and older trees many of them over three feet. In fact, these trees commence bearing four years from the graft, and six from the seed. From one entire lot of 640 southern trees transplanted last spring, not one has died.

Mr. Hunt is now forwarding over two thousand from the Hudson river nurseries on sale. Such choice varieties of beautiful trees as he selects "go off like hot cakes."

Borers, Mice and Sheep girdling.—Mr. Hunt's method of protecting trees from the depredations of field mice and the borer, is worthy of notice. He procures sheet lead, taken from old tea chests, at a nominal price, cuts into strips, and winds around the body of each tree close to the ground. This will last for many a year. It is simple, expeditious, and sure to keep off the "varmints."

A little hillock of dirt is raised around each tree, enough to cover the bottom of the lead.

Without protection, the borer is the worst enemy of the insect tribe, to the apple, peach, plum, or quince, that we have to contend with.

I have successfully prevented sheep from girdling my trees by the application of their own dung, quite fresh, plastered upon each tree, as high up as they can reach, one boy can pass over several hundred in a day. *Weybridge, Oct.* 18, 1850. S. W. Jewett.

Expeditious Budding.

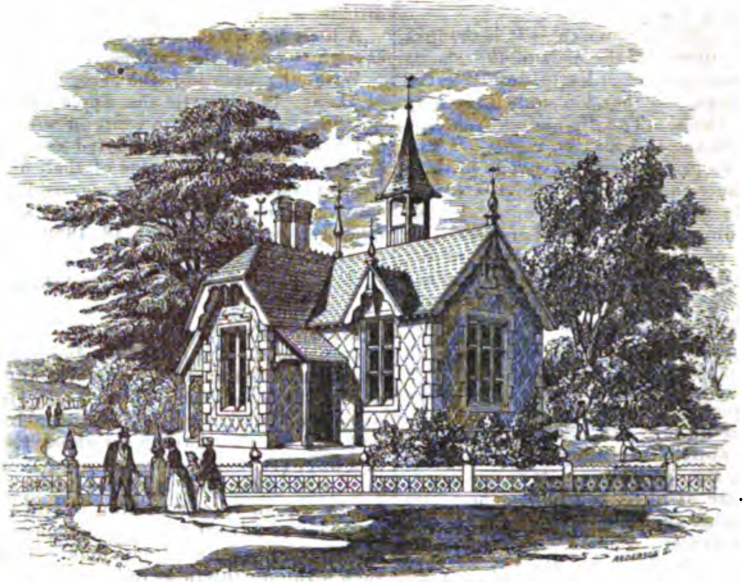
Messrs. Editors—Under the above head, I see it stated in the Cultivator for June 1850, page 207, that the Messrs. Overmans of Canton, Ill., and another man in western New York, are at least supposed to be the greatest "Live Budders" ever seen or heard of, they having set about 1,650 buds each in a day, (though it is not stated how many were employed to tie them in;) and this in a region where to "Strip off a bud and fling it at a tree was quite sufficient to have it take." Although we live in a State where the soil and climate will not produce such a rapid growth as in Illinois, yet we have some trees and some "Live Budders" here. My oldest son, now in his 21st year, set 2,300 buds, and prepared his own stocks, on the 22nd of Aug. 1850; and my second son, now in his 17th year, tied them all in; and unless some two persons can be produced, who can bud and tie in 3,000 in one day, you may at least hear of one live budder who can go *over* the Messrs. Overmans'. *Cornwall, Orange co., N. Y.* Chas. Hamilton.

Horticultural Items.

The Curculio.—S. W. Cole, of the New England Farmer, says that he lately observed an orchard of plum trees in Brooklyn "bending beneath their heavy and growing load of fruit," and on inquiry he found that the trees were jarred morning and evening, the curculios being allowed to escape, and as was supposed, flew away. Whether his neighbors suffered any the more for this expulsion, we are not informed; but although this is an easier way than to catch on sheets and kill them, it cannot be so sure, as a living insect may return, but if killed there is no possibility of any further injury on his part.

Transplanting Evergreens.—We have urged the importance of always, where practicable, removing a large mass of earth on the roots, and where this cannot be done, to keep even the surface of the denuded roots constantly moist till they are again replaced in the earth. This is corroborated by a statement from G. Jacques, who transplanted in the spring fifty two young hemlocks, (a very difficult tree to remove successfully,) on a *rainy* day, all of which are alive and growing.

The Kew Palm House.—This celebrated and magnificent erection, built in 1848, is 362 feet in length and 66 feet high; the whole frame-work and sashes are of cast iron, glazed with 45,000 feet of glass. It contains lofty palm trees, huge clusters of golden banannas, cocoa nut trees, and other large tropical productions, while the foliage of cinnamon and camphor scent the atmosphere; "and but for the glass roof that you see, instead of the sky, overhead," remarks the editor, who visited it, "you might believe yourself in the West Indies."

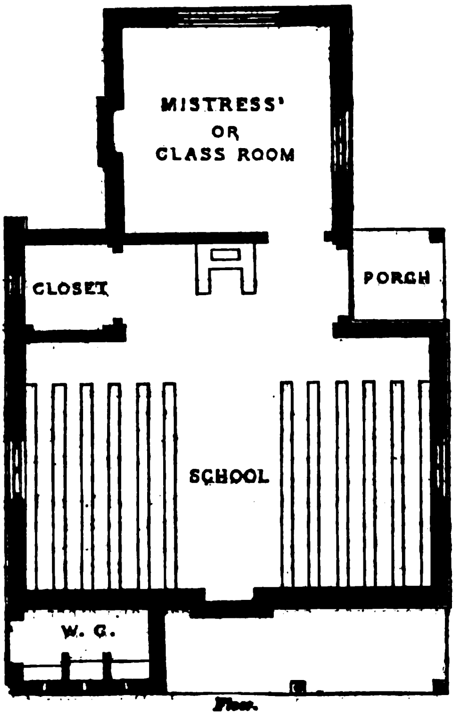


DESIGN FOR A COUNTRY SCHOOL-HOUSE.

Rural Architecture.

Country School-House.

It is a singular inconsistency, that, notwithstanding the great value which our people profess to attribute to common schools, the buildings which are devoted to them, frequently evince the utmost neglect. In passing through the country, one cannot fail to be struck with many disagreeable examples of this kind. Sometimes the school-house is planted within the limits of the highway, and to escape the charge that it incommodes the public travel, it is, perhaps, perched upon some high bank, or precipice, entirely inaccessible to any vehicle. In reaching it, the children realize such a foretaste of the toils incident to climbing the "hill of science," that it is no wonder they become discouraged. In other instances the house is placed in the bleakest situation of the neighborhood, exposed to the most violent winds and storms of winter, and the most intense sunshine of summer; not a tree breaks the force of the blast, or intercepts the scorching ray. The building itself has not one inviting feature. It stands on four piles of stones—one at each corner; the underpinning having never been finished, there is a free circulation of air under the floor. It never had any paint; there are no blinds to the windows; sometimes some calico or paper is hung up as a screen to *half* the window; but more frequently the only protection of this kind, is some bushes with the leaves on, which the "mistress" has fastened into the window-frame. If a certain necessary appendage to the school-house has ever been erected, its situation and condition are such as to outrage decency. Half the boards are torn off, it has no door, and is so near the public road that it might well be complained of as a nuisance.



Floor.

Such are too many of our country school-houses. But we are happy to know that a reform has commenced. Public school-houses, tasteful in design, and convenient in arrangement, have been erected in many places, and we hope the improvement will speedily spread over all parts of the country.

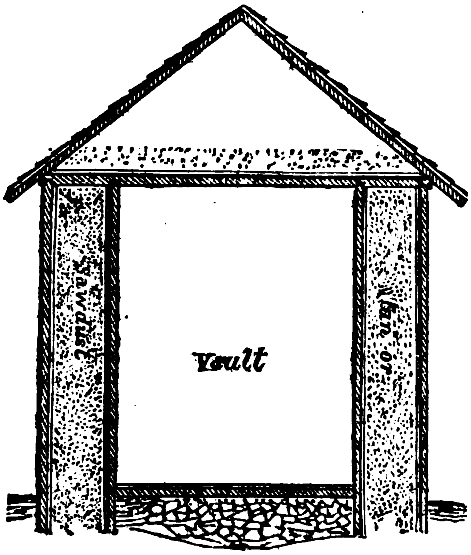
The design here given was modified by Mr. DOWNING, for the *Horticulturist*, from an English work on school-houses, by KENDALL. It represents a small school-house, in a style admirably suited to harmonize with rural scenery. It might be built of wood for $600 to $700. If not exactly copied, the design would afford some excellent hints. The exterior would have an agreeable effect if adopted for a small country church

The Farmer's Note-Book.

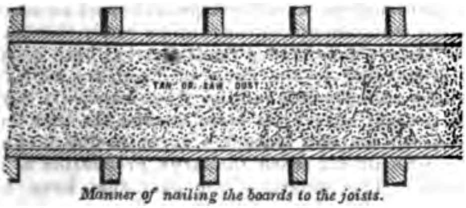
Ice-Houses.

In answer to several inquiries, we again insert the accompanying cut of an ice-house above ground. It was originally furnished to the *Horticulturist* by N. J. Wyeth, a celebrated ice merchant of Cambridge, Mass., who describes it as follows:

An ice-house above ground should be built upon the plan of having a double partition, with the hollow space between filled with some non-conducting substance.



In the first place, the frame of the sides should be formed of two ranges of upright *joists*, six by four inches; the lower ends of the joists should be put into the ground *without any sill*, which is apt to let air pass through. These two ranges of joists should be about two feet and one-half a part at the bottom, and two feet at the top. At the top these joists should be mortised into the cross-beams which are to support the upper floor. The joists in the two ranges should be placed each opposite another. They should then be lined or faced on one side, with rough boarding, which need not be very tight. This boarding should be nailed to these edges of the joists nearest each other, so that one range of joists shall be outside the building, and the other inside the ice-room or vault.



Manner of nailing the boards to the joists.

The space between these boardings, or partitions should be filled with wet tan, or sawdust, whichever is cheapest or most easily obtained. The reason for using *wet* material for filling the space is, that during winter it freezes, and until it is again thawed, little or no ice will melt at the sides of the vault.

The bottom of the ice vault should be filled about a foot deep with small blocks of wood; these are levelled and covered with wood shavings, over which a strong plank floor should be laid to receive the ice.

Upon the beams above the vault, a pretty tight floor should also be laid, and this floor should be covered several inches deep with dry tan or sawdust. The roof of the ice-house should have considerable pitch, and the space between the upper floor and the roof should be ventilated by a lattice window at each gable end, or something equivalent, to pass out the warm air which will accumulate beneath the roof. A door must be provided in the side of the vault to fill and discharge it; but it should always be closed up higher than the ice, and when not in use should be kept closed altogether.

Michigan Sod and Sub-soil Plow.

It will be recollected that this plow received a special premium, equal to the highest offered, at the trial of plows by the N. Y. State Ag. Society in June last. The figure of the implement, as given in our October number, represents it as first constructed. The accompanying cut shows it with several improvements which have been added. The form of the forward share has been somewhat altered, and a cutter attached to the share, substituted for the former lock-coulter. An improvement has also been made in the attachment of the plow to the beam, and in the gearing belonging to the wheel. **Newell French**, Rome, N. Y., is the proprietor of the patent for the above plow.

Preparations for Winter.

Such preparations for winter as have not already been made, should be attended to without delay. Domestic animals should be provided with comfortable shelter. This is a duty enforced by the obligations of humanity, as well as a matter of policy in a pecuniary view. The heat of the animal system must be kept up to about 100°; the substances which supply this heat are taken as food—they are the *fuel*, and the colder the atmosphere by which the animal is surrounded, the greater will be the amount of food required to sustain it. Animals should be kept dry, in winter. A cold, drenching rain is more injurious than almost any fair weather to which they are exposed. Moisture is rapidly evaporated, and every particle of water that is thus carried off, takes with it a certain amount of heat. This explains why animals are so likely to "take cold," as the expression is, by exposure to dampness under a low temperature. The heat is absorbed by the vapor, till the cold strikes through the system to the vitals.

Farmers that have not already suitable buildings for their stock, may readily make those which will serve for a while. Sheds for sheep may be made of boards, rails, or poles. If the latter are used, they may be thatched with straw, or with hemlock, fir, or cedar boughs; and by making the sides and ends double, with a space of six or eight inches between and filling the space with straw, they will afford good protection.

Vegetables which have been stored in cellars should not be kept too much from the air. They are very likely to rot from heating. Windows should be kept open until the vapor is seen to congeal inside the apartment, and even after that, it will be advisable to open them occasionally, in mild weather. If the common English turnip has been grown, it should be put where it can be fed out early, as it is of but little value after the first of January.

Every farmer should have a hay or straw-cutter. Clover hay will be consumed with much less waste by being cut—the stems and leaves are then all eaten together. Cornstalks should also be cut; cattle eat a greater proportion of them in this form than when given whole, and what they do not eat, is left in a much better condition to go into manure. Cut in small pieces, the spongy pith is exposed, and readily absorbs a large amount of liquid. If thrown whole into the heap, they do not rot by spring, and are quite a hindrance in loading the manure. If grain or meal is to be fed to stock, it should be mixed with cut hay or straw. It will be better digested and will go further.

Stock should not be pinched the fore part of the winter. If they must be put on short allowance, it had better be done at the last end of winter, as they will then have to be kept poor less time. But with the general abundance of forage the present season, there will, with proper economy, be no necessity of any stock suffering for food.

Wood and timber should be cut as soon as practicable. It is inconvenient working in deep snow; neither men or teams can do as much work as when the ground is bare or only covered with snow enough to make good sleighing. When there is a great depth of snow, there is much more waste. The stumps are cut higher, and many of the smaller branches are left, which would otherwise be saved. Forests should be cut clean, if it is intended that they shall grow up again. If the whole growth is taken off smoothly, at once, the new crop will start thick and grow evenly.

Sleds should be got ready for use at a minute's warning, for none can tell how soon the snow will fall, and the first that falls of sufficient depth, should be improved. Implements not in use, should be housed. They should not be all tumbled together in a heap, "as the manner of some is," but put up in order, each in its place,—so that any one could be reached whenever wanted—even in the dark.

Stones for walls may be dug till the ground becomes hard frozen, and if the smaller ones are put in heaps, and the larger ones raised up by "blockings" so that they will not be fastened to the ground by frost, they may be moved with the first snow, on a "stone boat" or sled, to where they will be wanted.

Leaves for litter and manure may be gathered to good advantage along the borders of woods. The wind often collects them in considerable quantities near fences. Taken while they are dry, they make the best bed for a pig that he can have; and when so broken up that they are no longer fit for this purpose, they will be the best manure for radishes, early cucumbers and melons, or potatoes, that can be applied.

Large Wheat Crop.

Eds. Cultivator—I have noticed several accounts of large yields of wheat in various places, but I have seen no statement of yields that would compare with a yield from six acres, harvested by Mr. William Hotchkiss, on his farm one mile east of this village. He harvested and thrashed *three hundred and eighty-five and three-fourth bushels;* a yield of *sixty-four bushels per acre.* The wheat was of the same variety as Mr. Cook's of Lima, (Soule's,) and was drilled in with a drill invented and made by Mr. Abbott, of Lockport in this county.

Mr. Hotchkiss has taken the premiums at our town and county fairs, and will probably be a competitor for the State premium. He has affidavits to establish facts as herein stated. I think he would be a successful competitor at the World's Fair, as I have conversed with several intelligent farmers from Old England, who say, they never heard of such a yield from the same number of acres. A Subscriber. *Lewiston, N. Y., Oct. 14th,* 1850.

American Provisions in England.

A considerable trade has been carried on between this country and Great Britain, for several years, in the articles of beef, pork, butter, cheese, &c., and we believe there is but one thing necessary to make this trade more extensive and profitable. The thing needed is an improved quality of the articles. In regard to American cheese, for instance, there would be a very large demand by the English people at fair prices, if the article would bear a comparison with the best of their own manufacture. The same remark will apply to pork, hams and butter.

The following extracts from a review of the provision trade at Liverpool, for the past season, we take from the *Mark-Lane Express:*

Cheese.—The bulk of the early imports having turned out fine, very good prices were realised, leaving a fair margin of profit to the merchant; but later arrivals proving deficient in quality, were very difficult of sale at any reasonable figure. The consequence was that many importers resolved on holding, and thus we had an accumulation of stock, all of ordinary or inferior character, and which, from deterioration of quality, had eventually to be forced off at very ruinous rates. Indeed, several parcels were returned to New York, in expectation of finding a better market there; in which hope, however, the owners were disappointed. At the end of the season a few lots of very inferior old, and some of the earliest new, came forward, and were sold at prices ranging from 5s. to 30s. per cwt. [or about 1 cent to 6¼ cents per pound.] The recent imports of the latter have, we are glad to say, proved of prime quality, and have brought high figures, say 40s. to 44s , and in one case 46s. per cwt. [about 8½ to 10 cents per pound;] rates which, we believe, are pretty remunerative to the importer. At present we have a good demand for all such cheese; and although perhaps these prices cannot be counted upon for any length of time, still a really fine article will always command a ready market here at rates corresponding to the value of English; whilst we believe ordinary and inferior American will, during the present season, be more unsaleable than ever. From all we can learn we conceive the make of English will not reach the large production of last season. The imports of the past year have been about equal to those of the preceding.

Hams.—We regret that we cannot report any improvement in the quality of American hams generally; the trade during the whole of the season has consequently been of a very dragging character, and prices have ruled much lower than even last season's. Until some amendment in the cure can be effected, we cannot expect a different result, and would therefore refrain from recommending their importation.

Renovation of Worn out Lands.

H. K. Burguyn Esq., of Jackson, North Carolina, has been very successful in reclaiming the worn out lands of the section where he resides. He has furnished for the agricultural part of the Patent Office report, an account of his mode of improvement, by which he has doubled the product of Indian corn, and increased the yield of wheat in a still greater proportion. The following are the principal points in his system of culture:—

If the "broom straw," in which these waste lands always grow up, retains any sap, by which, when turned under, fermentation will ensue, and cause the straw to rot, let the land *as it is*, be plowed with the largest size plow, drawn by three or four horses, running as deeply as possible—say not less than ten inches—and turning everything under. If the straw has no sap, burn it off, and plow as before. If possible, follow each plow with a subsoil plow, and go 6 or 8 inches deeper. This will make the stiff clay, which almost everywhere underlies our land, more open to the genial influences of the sun and air, and enable it to get rid of the surplus water of winter, and heavy rains in other seasons of the year.

About the middle of June, following when the weeds are about half grown, and before they have formed their seeds, sow the land broad cast at the rate of a bushel per acre, of the numerous varieties of peas among us, except the "black-eyed," which, having very little vine, affords little shade. In all cases I prefer those which have the most vine, and ripen earliest. When the land has much weeds or grass upon it, turn under the peas with any kind of plow, running not over three inches deep. If the land is bare of weeds, I prefer covering the peas with a large heavy harrow, running both ways—first lengthwise and then across the beds. As it is important to give the peas a start over the weeds and grass, I soak them six hours in water, and rub them in plaster of Paris; and, when they begin to leaf and branch, say, when twelve inches high, I sow plaster at the rate of a bushel per acre. This stimulates their growth, and they overpower the weeds and grass.

When about half the peas are ripe—not "half ripe"—hogs should be turned in to trample and cut up the vines, otherwise it is extremely difficult to turn them under. So soon as this can be done, the hogs should be taken off, for shading the land from the summer's sun—a most important matter in all improvement—and giving to the thin soil a large mass of vine leaves and other vegetable substances. From experience in the use of both, I think peas but little inferior to clover (to which family, indeed, it belongs,) as a specific manure for wheat.

After this mass of vine has been turned under, you have a "pea ley," over which sow a bushel and a half of wheat per acre, and six quarts of clover seed. Harrow both in thoroughly, and let the work be finished by the middle of October. The return will, of course, depend somewhat on the quality of the "old field;" but I venture to affirm, that it will amply repay all labor and outlay, and astonish by the great result apparently from so trivial a cause.

I am familiar with the great increase of crops from the use of lime and clover, and I do not mean to compare the two methods of renovating land as equal; but where lime is not to be had, there is no application that can compare for a moment, on well drained land, (if it need draining) with plaster, peas and deep tillage. No gold mine is so valuable as a good marl pit. I am, however, confining myself to interior districts, where neither lime nor marl can be had.

After the wheat comes off in June following, the clover, if sown early in October, will have grown so as to shade the land pretty well, even on the waste I speak of. It should not be grazed the first year, at all: in the February after, top-dress it with all the manure to be had, not forgetting to apply all the *old ashes* within reach. This time of the year, (winter) is best for applying manure in our country, where the hot sun acts so injuriously on a bare surface. The roots of the young clover being protected from the hard frosts and sudden changes, by the manure, it shoots forward with the earliest warmth of spring, and smothers all weeds. When the weeds mature their seeds, they draw upon the fertility of land equal to most crops. Clover gives a crop equal to any other, and is all returned to the land in droppings of the stock while grazing upon it. As proof of its profit, for three years I have never fed my working horses on grain or fodder but once a day, from the middle of May till the clover fails. They are turned on the clover field after the day's work is over, and taken up in the morning in good condition for service. I have never lost one by this management: in fact they improve from the time they are thus treated, and work better.

After the clover has been on the land for two summers, during which period it has dropped three crops of leaves and stalks, and thereby greatly improved the land, either turn it under as before, in September or October, for wheat, or later in the fall for corn the ensuing year. In the former case, you will find your land as thickly set as before with volunteer clover, which ought to remain as a pasture for the summer, after the second crop of wheat comes off. If corn instead of wheat, be grown, sow peas broadcast among the corn at the last plowing, soaking the seed and rolling them in plaster as before. After the corn crop, do not suffer the land to "lie out." No error can be more opposed to good farming, than that which assumes that land is improved by "laying out" and permitting a crop of weeds to mature upon it. If we had duly reflected, this error would long since have been apparent, in the continued quantity, of thousands of acres lying waste around us, *not a whit improved by "lying out."* After the soil has once been brought up by peas, subsoiling, or deep plowing and clover—all within reach of the farmer even in the interior—it will not again relapse unless the former barbarous and senseless practice of exhaustion and negligence be again adopted. If lime can be had, even at a cost of 20 cents a bushel, I would in all cases spread it on the land, after the first crop of peas had been turned under, to the amount of fifteen or twenty bushels per acre. This quantity will greatly benefit the land, and enable the owner shortly to repeat the application of a like quantity.

Canada and the United States.

Hon. Mr. Fergusson, member of the Canadian Parliament, in his speech at the late meeting of the Canadian Agricultural Association, spoke of the agreeable intercourse he had enjoyed with the people of the state of New-York in the following terms. He said for seven years past he had been in the habit of attending the New-York State Agricultural Fair. He had had the honor of being invited there from year to year, and he would say that if they would only go there with candid feelings and with a desire to improve, they would see something that would astonish them, that would bring them up, as farmers, considerably in the scale of human nature. (Great applause.) They would see farmers where they ought to be, the leading principal men in the country. There was no class of society equal to the farmer, all depended upon the farmers for their support—they had not taken that position which they ought to have done, and which they deserve; but he trusted the natural results of such meetings would make them feel their own importance, as they do on the other side. There he had uniformly met with a great degree of kindness. He could assure their friends from the other side, that there existed the kindliest feelings here towards their neighbours, who go hand and heart with them in the way of improvement; and he would say if they would continue to send their notions, they would send them their dollars in return, and besides they would give them the warm hand of friendship,—happy to meet as good friends for the interchange of good feelings and with the desire to do each other all the good they could —of course every one minding what was for his own interest.

In conclusion, he would take this opportunity of thanking his friends for all the kindness and hospitality he had met in attending State fairs, and would beg leave to propose—"Prosperity to the New York State Society, and all its members." (Cheers.)

Characteristics of the Season of 1850.

Throughout a large portion of the country, the distinguishing feature of the past summer has been the unusual quantity of rain, and the frequent displays of lightning. In this respect the season was the opposite of 1849. The theories which some have entertained, as to the effect of rail-roads and electric telegraphs, in preventing thunder storms, are, we presume, pretty well shattered by the numerous severe shocks of the last season.

The following table shows the quantity of rain which fell at Albany, during each month, from May to September, inclusive, for the present and last year. The average quantity for the whole year is 41 inches:

	1849. Inches.	1850. Inches.
May, ...	5.40	6.01
June, ...	4.45	5.72
July, ...	0.70	8.57
Aug., ...	4.83	2.50
Sept., ...	1.06	6.56
	16.44	29.36

April was cold, and May was cold and wet; from which cause, seeding was much delayed. Little was done in May; and from the Potomac and Ohio, to the St. Lawrence and the lakes, a great portion of the Indian corn, oats, barley, and spring wheat, was not deposited in the soil till the first week in June. Seed-time being thus retarded, the growth of all crops was forced into a very small compass. Vegetation in general was, however, uncommonly rapid and luxuriant, when fairly started. We had no drouth in this section,—the grass preserved its freshest and brightest green from May to November. The foliage of the trees has been of unusual density and richness, and the growth of both forest and fruit trees has been remarkably large.

Hay was abundant through the middle, eastern and northern States; but owing to the watery character of the grass, and to the unfavorable weather at the time of making, the quality is inferior to an average. In Ohio, Indiana and Michigan, the crop was injured by drouth which occured in June. The meadows along many of the principal streams in New-York, were overflowed by the great rains of July, and the grass so injured by the deposit of earthy matter, that it was rendered worthless for hay.

Wheat, taking the whole country together, gave a bountiful yield. Probably the whole amount of the crop is considerably larger than any before harvested in this country. In Ohio, and the western States, generally, it is represented as very fine. The drouth in June checked the growth of straw, but the grain filled in the best manner. In some neighborhoods of Western New-York, the grain was injured by being sprouted while standing in the shock; but we think the damage from this cause was of less magnitude than was at first represented. *Spring* wheat has not, generally, done as well as usual, owing, chiefly, to the weather being too wet at the time the grain was forming. The wheat-midge has been less prevalent at the eastward, the past season, than for several previous years.

Rye has given, perhaps, an average yield, though it was injured by too much wet, except on the driest soils.

Barley, it is said, has not done as well as usual, either in yield or quality. The central counties of this State constitute the main district for the cultivation of this grain, and for the supply of the large breweries along the Hudson river.

Oats, in many places, were much injured by the great storm of the 19th of July. They were beaten flat to the ground by the wind and rain, and in many instances did not sufficiently recover to fill well. Comparing the crop of this year, however, with that of 1849, for the whole country, we think it probable that the balance would be in favor of the present year. The crop of the former year, it will be remembered, was greatly injured by drouth.

Indian Corn has generally done well. As before remarked, it had but a short time to grow—scarcely more than three months, and the general maturity of the crop, before the occurrence of frost, is a striking example of the rapid progress of vegetation under the effect of intense summer heat. The yield is represented as satisfactory, except in some instances in the most northern portions of the country, the ears have been small in proportion to the stalks. This defect was chiefly confined to wettish soils, or fields where the planting was too thick to admit the proper action of the sun.

Potatoes have been more affected by rot than in any year since 1845. The crop, except on very wet and heavy soils, flourished well, and in the earlier planted fields, the usual quantity of tubers was formed; but the rot has lessened the value of the crop to the amount of at least fifty per cent.

Fruits, in this section have hardly given their usual yields. The apple crop is light, over most of the New-England and Northern States. The fruit did not *set* well. This remark is also applicable to plums, and some other fruits. The cause is supposed by some to have been the prevalence of wet weather at the time the trees were in blossom. This, it is thought, prevented the proper deposition of the impregnating pollen. Does observation support this theory? Some kinds of apples, as Spitzenburgs and Newtown Pippins, are more specked with black, and less fair than usual. Pears have been badly affected by blight. Trees that have heretofore escaped this scourge have this year been seriously attacked, and in many instances ruined. The Virgalieu, or White Doyenne, has been cracked and spoiled to a great extent in this vicinity. Peaches were abundant through New Jersey, Delaware, &c., from which they were sent in large quantities, and at very low prices, over the northern and eastern sections of the country, and to the Canadas. Plums were not equal to a medium crop. Grapes, except in warm soils and sheltered situations, have failed to ripen well, from want of clear, hot weather towards the close of the season.

The weather, during autumn, has been generally mild, with occasional moderate rains. The latter half of September was, for the most part, unseasonably cold, but with only one or two frosts, and even up to the first of November there has been less frost than there often is before the first of October. The ground has been frozen but two or three nights. The leaves have fallen from the trees, from their having died a "natural death"—they had fulfilled their office, and were no longer needed. The autumnal hues of our forests have been splendid indeed, and with the rich green of our pastures and meadows, and the mellow atmosphere of the "Indian summer," our landscape scenery has possessed high attractions for those who can appreciate the beauties of nature.

Culture of the Onion.

Eds. Cultivator—My little girl, who feels a common interest in the cause we are all laboring to promote, has favored me with the annexed copy of a statement by a worthy and intelligent cultivator in this town, which I forward, to be used at your discretion. It shows a net profit of about *one dollar to each square rod cultivated*, which is doing quite well for a yankee soil. I saw the crop in the field, and after it was gathered, and have full confidence in the accuracy of all that is said.

If I do not mistake, Mr. B's manner of preparing his land; of raising his seed; of pulverizing and applying his manures; of keeping his ground entirely free of weeds; of careful attention that every movement shall be made at the best time and in the best manner, affords instructive lessons for the cultivation of other vegetables as well as onions. I know not whether much attention is given to this crop in your region, but this I have observed for a number of years, no labor upon the soil in this neighborhood is more liberally rewarded, than that which is applied to this culture. The demand seems to increase with the growth, so that notwithstanding the products have quadrupled, all are readily sold from 35 to 45 cents the bushel, according to quality.

Our cultivators of late are very partial to the use of the *side hill plow*, even upon their plain lands, because it leaves them free of all *back furrow ridges*, and *dead furrow hollows*, and as they think, in lighter and better condition. The old notion of plowing shallow and keeping the hard land for the raising of the onion is exploded; it being found that deep plowing is equally serviceable in this, as in most other crops.

Particularly do they find that the bulk of the manure applied should be well covered and intermingled with the earth; and that much stirring of the soil has a highly favorable influence on the growing crop. But I forbear to multiply my own remarks, my purpose being simply to give you *the practical results of the hard hands themselves*. Very respectfully and truly yours, J. W. Proctor. *Nov.* 8, 1850.

Statement of Mr. Buxton.

To the Committee on Root Crops:—I find the piece of land, planted with onions, to which I asked your attention, to contain one hundred and five poles, and to have produced the present season four hundred and forty-eight bushels of onions fit for the market; being about three and one-third bushels to the square rod. The onions were not extraordinary large, but were remarkable for uniformity of size, and excellence of quality. They are as handsome as any I ever raised. They are of the species called silver skin. They are thick and plump, which form has been produced by careful attention in selecting such for seed for several years; I raise my own seed, and am particular to set only such for this purpose as I wish to raise. I find, in this way, that their form can be modified as I wish.

The land on which they grew is part of a field of 13 acres, on Collins plains, a light soil free of stone. For the last ten years it has been under good cultivation, and freely manured,—most of the time this parcel has yielded onions. Barn manure, compost, ashes, and musclebed have been the principal applications. Ordinarily when we plant onions we apply 5 or 6 cords of manure, to the acre. In 1849, finding the crop to have failed on this piece, yielding short of 300 bushels to the acre; I thought it needed some other nutriment, and as soon as the crop was gathered I sowed it with oats, using a cultivator to cover them. These grew luxuriantly, and late in the fall, just as the ground was about to freeze, I turned them under, using a *side hill plough*, running the furrows about eight inches deep. The entire crop was buried by the furrow and so laid until spring. On examining it then I found the oats as sound as when turned in; consequently I could not plow the land. I went over several times with a cultivator, and then applied a moderate dressing of manure from my hog yard to the surface, say about two and a half cords to the lot, and mingled it with the soil as well as I could, taking care to remove all obstruction to the even distribution of the seed; and then planted with a machine in the usual way. It came up evenly and grew well through the season, being kept entirely clear of weeds. The appearance of the plants through the season was uncommonly good—manifestly deriving much aid and support from the decaying green crop underneath. This is proved by another piece of onions in the same field, cultivated and manured in the usual way, where the crop was not more than two thirds as large as this. I am the more particular in describing this experiment with the oats, because it has succeeded beyond my expectations. I have seen other fields of onions where they grew to a larger size than these, and have no doubt mine would have been larger, if I had put on more manure, but as a whole I have never seen a handsomer yield. They sell at the present time for $1.25 per barrel delivered in Boston. I have so long been accustomed to keep my land clear of weeds, that the labor of taking care of onions is not more than twice as much as is required for indian corn. I had no thought of offering this crop for premium until requested so to do. If this plain statement of facts shall be thought worthy of your notice, I shall feel much gratified. Daniel Buxton. *Danvers, Mass., Oct. 21st*, 1850.

Capons.

Professor Dick, a distinguished veterinarian of Edinburgh, gives in the *North British Agriculturist*, the following directions for caponising fowls:

Select a young cock—say from three to six months old, keep him fasting for 24 hours—let an assistant hold him on his back, and then make a transverse incision at the posterior end of the sternum (breast bone,) so as to allow the forefinger to be introduced freely into the cavity of the abdomen; the finger is to be passed first on one side forward, by the side of the spine, and the testicle detached with the nail (which should be allowed to grow long, to facilitate the operation;) and having got out the one, the other must be removed in the same manner. The wound should then be closed with a suture, and the bird placed in a warm room, and fed on soft food for a few days. Instead of cutting away the testicle with the nail of the finger it is the practice in some countries to introduce a small tube, or reed, with a double thread, forming a noose, which, being passed over the testicle, is drawn outwards through the tube, so as to cut off the connection, and the testicles are thus removed, one after the other. The Chinese adopt this method, and use a reed, and a thread of cane fibre, which, by its firmness, and at the same time elasticity, suits well for getting on the noose. The operation may also be performed by making an incision before the thigh, in the side, in the same manner as in spaying pigs; but it is sometimes difficult to get out both the testicles in this way, and an incision is, therefore, sometimes required to be made in the other side, and the double operation is more likely to destroy the animal. Some make capons by passing the finger along the rectum, and break down the testicles by pressure, but it frequently does not succeed, and even if they are not removed from the abdomen, after the operation has been performed by incision, it sometimes happens that they adhere again, and resume their functions, and the bird is not castrated. Examine the body of a dead cock before operating. Pullets are made by dividing the oviduct, in consequence of which the abdomen gets filled with eggs; an incision is made the same as in making capons: the bird must be killed after a certain period.

Knowledge of Geology Important to the Farmer.

Eds. Cultivator—In the preliminary treatise on Natural Philosophy, on the objects, advantages, and pleasures of science, published by the Society for the Diffusion of Useful Knowledge, there are some excellent illustrations given, with one of which we will introduce this communication. The writer says,—"There is hardly any trade or occupation in which useful lessons may not be learned by studying one science or another. To how many kinds of workmen must a knowledge of mechanical philosophy be useful! To how many others does chemistry prove almost necessary! Every one must with a glance perceive that to engineers, watch-makers, instrument-makers, bleachers, and dyers, those sciences are most useful, if not necessary. But carpenters and masons are surely likely to do their work better for knowing how to measure, which practical mathematics teaches them, and how to estimate the strength of timber, of walls, and of arches, which they learn from practical mechanics. Nay, the farm servant, or day laborer, whether in his employer's business, or tending the concerns of his own cottage, must derive great practical benefit for knowing something of the nature of soils and manures, which chemistry teaches, and something of the habits of animals, and the qualities and growth of plants, which he learns from natural history and chemistry together. In truth, though a man be neither mechanic or peasant, but only one having a pot to boil, he is sure to learn from science, lessons which will enable him to cook his morsel better, save his fuel, and both vary his dish and improve it. Science then makes men more skillful, expert, and useful in the particular kinds of work by which they are to earn their bread, and by which they are to make it go far and taste well when earned." Thus,

> "Though nature weigh our talents and dispense
> To every man his modicum of sense;
> Yet much depends, as in the tiller's toil,
> On culture, and the sowing of the soil."—*Cowper.*

New names must be given to new sciences as they are born, and the languages of the Greeks and Romans are those most usually drawn upon for this purpose. The science which describes the solid materials of the earth, the order in which they are arranged, and the causes which have affected that arrangement, has been named Geology, from the Greek, ge, the earth, and logos, discourse. The knowledge of the relations of this science to the successful cultivation of a country, is at present possessed by few farmers. Some understand its connection with the formation of the soils they cultivate, but even these are a minority. It may safely be said, that this knowledge is a desideratum, the want of which, together with that of other sciences of a kindred nature, now distinguishes our agriculturists. But it is remarked there are many good farmers who are not Geologists, who perhaps do not form a correct idea of the meaning of the word. They, however, neither understand the principles of their art, nor can they derive any intellectual enjoyment from the results of their practice; such men are "born to blush unseen!" We do not mean to undervalue that sure practical guide of the farmer, *experience*, nor the result of long and frequent attention to numerous local circumstances; these are wheels within a wheel, yet of no subordinate importance.

Numerous instances might be cited of the benefits conferred by Geology upon agriculture. The intermixture of soils where one kind of earth is either redundant or deficient, is practiced in some places with great advantage. Red sandstone districts are converted into fertile land by intermixing with them the calcareous marl which they frequently contain in detached beds. So with the clay marl generally underlaying pine plains. The green sand marl of New-Jersey is applied to sandy soils with much benefit. "When we behold," says Pro. Rogers, in his report to the Legislature of that State, "a luxuriant harvest, gathered from fields where the soil originally was nothing but sand, and find it all due to the use of a mineral sparsely disseminated in the sandy beach of the ocean, we must look with exulting admiration on the benefits conferred upon vegetation by a few scattered granules of this unique and peculiar substance. The small amount of green-sand dispersed through the common sand, is able, as we behold, to effect immeasurable benefits in spite of a great predominance of the other material, which we are taught to regard as, by itself, so generally prejudicial to fertility."

We would regard it as a great advance upon the present position of the farming community, if each proprietor was qualified to name the rocks and minerals which are incidentally met with in crossing his fields. What pleasure would be derived by the formation of cabinets of geological specimens found on farms! How many young minds grow up sealed to knowledge, because those around them to whom they naturally apply, are sealed likewise! But it is gained by application, we will not say unremitted, but assiduous and continued, until its attainment seats its possessor on a throne. A. K. *Albany, Nov.* 1850.

New Kind of Manure.

Immense numbers of cattle were formerly slaughtered in South America, chiefly for their hides—the carcasses being left on the plains as food for wolves and vultures. Latterly, however, it has been found that a portion of the flesh and fat may be saved with profit. The process by which this is done is thus described:

"The best part of the beef is cut off in long strips, which are dried in the sun; and the remainder of the flesh and the whole of the bones are put into a large vat, with a double bottom, the upper one of which is perforated with a number of holes. A current of steam is then admitted into the space between the two bottoms, by which means the tallow is gradually melted, runs through the holes, and is collected in a vessel for the purpose; the current of steam being kept up as tallow is obtained. The remainder of flesh and bones is then thrown out, and has hitherto been regarded as refuse; but a considerable quantity of it having accumulated, the proprietors of the works were anxious to find a use for it, and they have accordingly commenced exporting it as a manure."

Considerable of this substance has been taken to Scotland. It has been analysed in the laboratory of Prof. Anderson, chemist to the Highland Agricultural Society, and the results are given as follows:

Water,	9.05
Fat,	11.13
Animal matter,	39.52
Phosphate of lime,	28 74
Carbonate of lime,	3.81
Alkaline salts,	0.57
Sand,	7.16
	100.00

The substance is described as consisting of pieces of bone, mixed with dry and fibrous flesh. It emitted a strong odor, though from the dry state of the mass, its decomposition proceeds with great slowness. Prof. Anderson thinks this manure will be likely to prove of considerable importance. He thinks it comes nearer guano than any other manure, though it is not quite equal to the best of that article from Peru. He observes, however, that "it will, in all probability, prove a slower manure than guano; and should this be the case, it will present considerable advantages, for there is little doubt that in many instances guano proves too rapid in its action—not giving sufficient support to the crop the latter part of the season.

A Receipt to Preserve Pork.

Take 1 lb. of Black pepper, and grind it fine for one barrel, or 200 lbs. of pork, and sprinkle on each layer of pork, until it is quite brown—then put on the salt. It helps to preserve the meat, and adds greatly to the flavor and smell of it. I have practiced it for years. Lindley M. Vail. *Ouakertown, N. J., 10th mo., 22nd,* 1850.

Cultivation of Cranberries.

Edward Thacher, of Yarmouth, (Mass.) furnishes the officers of the Barnstable County Agricultural Society an account of his mode of cultivating cranberries. The following is his statement:

July 12th, 1845, I purchased for $40, then considered more than it was worth, one and a half acres of land—about one half a sandy beach and the remainder a low peat meadow covered with water. A rim of abont six feet in width around the bog and between the water and the beach, had a few cranberry vines on it, which had been closely fed off. In the spring of 1846, I drained the bog and covered about one-eighth of an acre with sand three inches thick, and set it with cranberry vines in rows two feet apart and hoed them four times in the season of 1846, and once in the spring of 1847. The grass then got advantage of me, and I left the vines to work their own way. They have now nearly overcome and worked out the grass and rushes. On the remainder of the bog I strewed vines, and trod them in the mud, by walking over them. These grew with rapidity without any farther care except flowing in the winter. In the fall of 1848 I gathered from ten rods where no sand had been spread, as many bushels of cranberries, while on the part sanded I had scarcely as many quarts. The latter are now doing better, having got the advantage of the grass, and I think will finally work it out. I have this year, on the quarter of an acre offered for premium, quite a good crop, although the worms destroyed nearly one half. I have picked one square rod of the light colored variety, set in the mud, and it yielded two bushels and twelve quarts, (or at the rate of 380 bushels to the acre.) One square rod of the small dark colored variety on the mud yielded one bushel and two quarts. The large red variety yielded on the mud two bushels to the square rod. The whole quarter is not yet gathered; it will yield about thirty-five bushels, about one half of the vines being set on mud and one half on sand.

In selecting soil for cranberries, it is highly necessary to select such as will not dry in summer, but much also depends on the selection of the vines, as the Committee will see by the samples here presented, all having the same soil and the same treatment. The *samples are not selected, but sent in precisely as they grew.* The whole expense on the above bog, up to the present time, does not exceed $40.

I have received from the sale of cranberries, up to the fall of 1849,		$320.00
Deduct for picking, one-fourth,	$80.00	
All other expenses for setting, interest, &c.,	40.00	
		120.00
Net profit,		$200.00

Prize Wheat.—At the late exhibition of the Agricultural Association of Upper Canada, the *Canada Company* offered a prize of £25 for the best 25 bushels of wheat, and £12 10s for second best lot of the same quantity. David Christie of Dumfries, received the firist prize. The variety was the *white blue-stem,* which he first obtained at the New-York State Fair at Buffalo in 1848. It is said to have weighed 66 lbs. to the bushel, and to have yielded 36 bushels to the acre.

To young Farmers.—One of the most important parts of a young agriculturist's professional education, is the characteristics, marks, qualities, and capabilities of all descriptions of live stock necessary for agriculture. Some knowledge of sketching or drawing the live animals would be highly conducive to the pupil ascertaining a proper idea of shape and proportion; and should there be an intelligent butcher in the neighbourhood, I would recommend him to see as much *of his* business as he can consistently with his other occupations—to weigh the live animal, from its handling, size, and appearance in his mind; attending the slaying of such animal, examining its weight when dead, and comparing this with his own opinion of it when alive, would all lead him to form more correct and solid opinions in his future transactions with fat stock. *Lecture on Agricultural Education.*

Notices of Publications.

PICTORIAL FIELD BOOK OF THE REVOLUTION; or Illustrations, by Pen and Pencil, of the History, Scenery, Biography, Relics, and Traditions of the War for Independence. By Benson J. Lossing. With six hundred Engravings on wood, by Lossing & Barritt, chiefly from original sketches, by the author.

This is the title of a work now in course of publication, by **Harper & Brothers**, New-York. It is designed to furnish "a pictorial and descriptive record of a journey recently performed, to all the most important historical localities of the American Revolution." This design is admirably fulfilled, so far as the work has been completed. It is just what the public needed, and we deem it fortunate that it has been undertaken at this time. Mr. Lossing has saved from oblivion, and preserved in an imperishable and beautiful form, the image of many an interesting relic, which, after a few more years, it would have been impossible to obtain. Besides his pictorial sketches, which are of the most truthful and natural description, he has collected many interesting historical incidents from aged patriots, in whose minds the memory of the trying scenes of the Revolution is still fresh. All the illustrations are accompanied by well-written descriptions and explanations, which comprise both the historical facts with which they are connected, and the personal observations of the author. Altogether, the work is one which has many attractions, especially to the young, by whom it cannot fail to be read with great avidity. The engravings are of a style not inferior to anything of the kind which has ever appeared, and the whole execution of the work is of the very best character. It is issued semi-monthly, and will be completed in about twenty-numbers, of forty-eight pages each, octavo; the price only twenty-five cents a number.

Harper's New Monthly Magazine.—This highly useful work, which was only commenced in June, has already attained an unprecedented circulation—FIFTY THOUSAND copies being issued. The publishers say it is their "leading object to present to the public, in handsomer style, and at a cheaper rate, a greater amount of reading matter, combining entertainment with instruction, than is given in any other periodical in the world." It is certainly the medium of circulating a very great amount of valuable information. The work is handsomely printed, on good paper, and is issued monthly, at twenty-five cents per number. Harper & Brothers, New-York.

Answers to Correspondents.

Steel Cultivator Teeth.—D. M., Louisa C. H., Va. Rogers' patent steel cultivator teeth are made by various persons. The form of the bottom of the tooth, as now preferred, is triangular. From seven to nine teeth are used for two-horse or field cultivators. The teeth are so long as not be liable to clog. Nathan Ide, Shelby, Orleans county, N. Y., manufactures cultivators for preparing ground for wheat and other grain, which have been much approved. D. Hinkston, Clarkson, Monroe county, and E. R. Dix, Vernon, Oneida county, make good articles of this kind. We have not their prices. For sowing wheat on "corn ground," the use of the cultivator is sufficient, without the plow, if the soil is rather loose; but if it is hard, as clayey soil is likely to be, it had better be plowed. The same remark will apply to sowing spring grains on land that was cultivated the previous season. In any case, it will be advisable to work the soil before scattering the seed. The teeth alluded to are made and sold by Gay & Hoskins, Seneca Falls, N. Y. The price is 50 cts each, wholesale, or 62½ cts retail.

Folding Sheep in Summer.—D. M. Folding sheep, except in winter, is but little practiced by northern farmers. Sheep would probably be injured by confinement at night, without food, during the extreme heat of summer. At that season, they feed but little during the day, but graze much at night, while the air is cool and the dew is on the grass. They might, probably, be folded on turneps in autumn, without injury. It is true that folding is extensively practiced in England and Scotland, but the weather is there so temperate that the animals can graze in the day time.

Notes for the Month.

To our Agents and Correspondents.

To our Agents,—who have heretofore done so much to promote the circulation of our journal, and to whom we tender our grateful acknowledgments,—we send with this number a Prospectus for our next year's volume, together with a copy of The Pictorial Almanac, for 1851, a copy of which is to be sent to all subscribers for next year, and solicit a continuance of their kind offices in behalf of The Cultivator. It will be seen by reference to the last page of this number, that we have renewed our liberal list of Premiums to Agents, for which we trust there will be a spirited competition.

We tender our hearty thanks to all those Correspondents who have contributed so liberally to our pages, the past and previous years. It is to them that The Cultivator is indebted for a large portion of its interest and usefulness; and we should be glad to receive contributions for our pages from a much larger number of its readers than heretofore. We trust our friends will not be backward in this matter. We want the details of practice and experiments, and facts and suggestions on all subjects in which the farmer is engaged,—everything, indeed, which will enlighten the mind, and increase the profits of the farm. Will not many of those who have been reaping the benefit derived from information received through The Cultivator, now come forward with their quota for the benefit of others?

Importation of Cattle into New Brunswick.—Mr. John H. Reid, of Fredericton, N. B., has imported from England a short horn bull and heifer, which we are informed are of the best blood. They were purchased for Mr. R. by H. Strafford, Esq., editor of the *Herd Book*. The bull, *Giovanni*, (vol. 9, H. B. 10272,) was bred by Mr. Harvey Combe, Cobham, Surrey. He was calved February 10, 1850. The heifer was bred by Mr. John Bell, Kirkleavington, Yorkshire. She was calved February 13, 1848, and is in calf by *Grand Duke*, which was [illegible] at the sale of the late Mr. Bates' herd for [illegible]0. Mr. **Reid** has also imported some valuable [illegible]nd with the fine assortment of poultry which [illegible]llected, we presume his place presents many [illegible]ns.

COMMUNICATIONS have come to hand, since our last, from B. P. J., H. C. Meriam, S. W. Jewett, Prof. Norton, A Subscriber, J. W. Proctor, S. B. Buckley, T. S. Gold, John Townley, W. A. Ela, Reviewer, C. H. McCormick, L. M. Vail.

BOOKS, PAMPHLETS, &c., have been received as follows:

Pictorial History of the Revolutson, by B. J. Lossing, parts I to IX, and Harpers's New Monthly Magazine, for November—from Messrs. **Harper & Brothers**, New-York.

The New Englander, for November—from the publisher, J. B. **Carrington**, New Haven, Ct.

Three Lectures on Hygeine and Hydropathy, by R. S. Houghton, M. D.—from **Fowlers & Wells**, New-York.

The Churches and Sects of the United States, by Rev. P. D. Gorrie —from **Lewis Colby**, publisher, New-York.

V. B. Painter's Buisness-men's Almanac, for 1851—from the publisher.

The Agriculturist's Guide and Almanac, for 1851—from J. G. **Reed**, publisher, New-York.

The Illustrated Domestic Bible, by the Rev. Ingram Cobbin, parts VIII and IX—from the publisher, **Samuel Hueston**, New-York.

LARGE CAULIFLOWER.—We have received from Mr. B. B. **Kirtland**, of the Cantonment Farm, Greenbush, a cauliflower which weighed, closely trimmed, twelve pounds. It was of delicious quality. Mr. K. has been very successful in the culture of this vegetable. His soil is a slaty loam. His method of cultivation is to dig a hole a foot deep, and eighteen inches square; fill it half full with common yard manure, unrotted; lay a fresh sod, three inches thick, grass downward, on the manure; fill the hole with soil, and set the plant. The plants are first started in a hot-bed, and set out in May.

☞ We have also received from Mr. **John S. Goold**, of this city, very fine specimens of the Walcheren cauliflower, grown by him. This variety is of superior delicacy and flavor.

FRUITS FROM CLINTON COUNTY, N. Y.—We have received from **Jonathan Battey**, of Keeseville, specimens of the "Northern Sweet" apple, and also a sweet apple under the name of "Surpasse Tallman." The first named was brought to the notice of the Congress of Fruit-growers, last year, and recommended for cultivation. As a sweet apple, we know of none superior to it, in its season—October and November. The "Surpasse Tallman" is a fine and handsome apple, somewhat similar in character to the Tallman Sweeting, but rather richer and sweeter. We do not know for what particular qualities Mr. **Battey** thinks the Surpasse superior to its predecessor. Mr. B. sent us a specimen of a pear, called "Platt's Seedling." We have received no particulars in regard to its origin or qualities. The specimen sent was very fair, and of good size. It was so much over ripe that we could not fairly judge of its qualitles. It is sweet, melting and juicy.

SALE OF THE STICKNEY STOCK.—We noticed, briefly in our last, the sale of the live stock of the late **Wm. Stickney**, at Westminster, Vt., on the 9th of October. We have since received a detailed account of the sale from W. S. **King**, Esq. of Manton, R. I., by whom the sale was conducted. From this account it appears that the full blood Devons brought prices averaging as follows: viz., three bulls, $149.33 each; three cows, from three to eleven years old, $109.16 each; one two-year old $160; one yearling $150. Twelve grade cows, three years old and over, brought an average of $5[illegible].33 each. Seven grade two-year-old and yearling heifers, $52.85 each. Four grade heifer calves $22.50 each, and four grade bull calves $25 each. One pair four-year-old oxen, $100; one pair three-year-olds $80; two pair two-year-olds an average of $54 each; two pair yearlings an average of $38.50 each. Of the swine, one Suffolk sow, (imported,) six years old, brought $80; another, two and a-half years old, $60; another four years old, $40; an Essex sow, with nine pigs, $129; a Suffolk, with six young pigs, $110; two Suffolk sows, ten months old, $42.50 each.

POULTRY SHOW AT BOSTON.—The first exhibition of the New England Society for the Improvement of Poultry, was held at the Public Garden in Boston, on the 12th, 13th and 14th of November last. In extent, the display exceeded the expectations of all, and in this respect it was probably unequalled by anything of the kind which was ever before known. The report of the officers will show the details. The whole number of specimens was upwards of twelve thousand. All classes of domestic poultry were represented, but the *Gallus* genus comprised much the largest portion of the show. In this department, almost every distinct variety, as well as every possible mixture, was brought out—from the pert little Bantam of one pound, to the gigantic Malay of twelve pounds weight. The latter tribe of fowls greatly took the lead as to numbers. The object of most of the breeders of this stock, appeared to be to produce the largest frame; and hence a large proportion of the fowls exhibited, were of awkward, uncouth form, with enormous bones, and with comparatively small amount of flesh. There were, however, some exceptions to this, indicating that in judicious hands, a valuable variety of fowls may, by long-continued selection, be bred from this large Asiatic stock. In support of this remark, we might refer to the superior specimens offered by **Wm. Bent**, Cochituate, and the fine white fowls offered by A. A. **Andrews**, Dedham.

Turkies presented but little variety. A singular freak of nature was seen in a male bird of this species, belonging to Dr. H. C. **Parker**, of Manchester, N. H. A small bunch of feathers, several inches in length, grew from the back of the head, in the form of a plume. There were three species of phesants—the English, and the golden and silver Chinese. Pigeons of several species, and all the fancy varieties were shown.

The web-footed birds comprised all domestic species, including swans, and several species of geese and ducks, not common in a domestic state. Among the rarities in this department, was a pair of Egyptian geese, (*Chenalopex egyptiacus*,) exhibited by **John Giles**, of Providence, R. I. We are not aware that this singular species has been before introduced into this country. Among the ducks, were fine specimens of the Aylesbury, the beautiful Summer or Wood duck, the Teal, the Pin-tail, and the Diver.

Several very large and interesting collections of birds, comprising many of the most rare kinds, were offered by various individuals; among which we noticed those of **Thos. E. Chickering**, Roxbury; **John Giles**, Providence, R. I.; **Saml. Jaques**, Jr., Somerville; W. W. **Chenery**, West Cambridge, and others.

The exhibition was attended by great crowds of people, during the three days, and every one seemed delighted with the opportunity of seeing and comparing the most interesting and useful species and breeds, belonging to the feathered race.

DEATH OF A NOTED HORSE.—We are informed that the well-known horse *Gifford Morgan*, died at the stable of **Benjamin Gates**, in Walpole, N. H., on the 30th of October last. If we mistake not, he was twenty-four years old. By reference to the advertisement of Mr. Blodgett, in this number, it will be seen that he has some of the progeny of this valuable animal.

Large Egg.—Col. E. Long, of Cambridge, N. Y., has sent us an egg laid by a full blood game hen, which measures six by eight inches in circumference. It weighed, just four ounces.

ANDRE LEROY,

Nurseryman at Angers, France,

ALREADY well known in the United States and in Europe, having obtained at the last French National Fair, in Paris, the only Gold Medal awarded, both for his Fruits and Ornamental Trees, begs leave to inform his friends, and the public in general, that he is now ready to execute, with the greatest care and despatch, all the orders that might be sent to him. His Catalogues may be had on application to his agent in New-York, Mr. Edouard Bossange, merchant, who will receive and forward all orders for Mr. LEROY directed to his care, and also pass through the Custom House and forward to their respective destinations, without any trouble to the importers, all *trees* and plants ordered. Dec. 1—3t.

Agricultural and Horticultural Implements, and *Field and Garden Seeds.*

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,
August 1, 1850.—tf. 189 & 191 Water St., New-York.

School of Applied Chemistry,

Yale College, New Haven, Conn.

JOHN P. NORTON, Prof. of Scientific Agriculture.
HENRY WURTZ, First Assistant.

STUDENTS are received in this Laboratory as a special class distinct from the other college departments, and instruction is given in all branches of Chemistry, both organic and inorganic, general and special.

Every facility is afforded to those who desire to become proficient in Scientific Agriculture, in the analysis of soils, plants, animal substances, manures, &c. Students taken with special reference to their becoming instructors.

A Course of Lectures upon *Scientific Agriculture*, by Prof. Norton, will commence about the middle of January, and continue two and a half months. This course is intended to present a plain and intelligible view of the connections of science with agriculture, which may be understood by any farmer. Mr. Wurtz proposes to lecture on some points of Applied Chemistry during the summer term.

The lectures of Prof. Silliman on Geology and Mineralogy, and those of Prof. Olmsted, on Natural Philosophy, Astronomy and Meteorology; also the college libraries and cabinets, are accessible to the students.

For information as to terms, &c., apply to Prof. NORTON,
Oct. 9, 1850—4t *New-Haven.*

A New Hardy Climber.

THE new and beautiful Climber, Calestigia pubescens, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter, without the least protection. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental planted in patches like the verbenas; makes an admirable screen, and is very effective in young plantations, belts, or shrubberies, trailing prettily on the surface, and running up among the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting cemeteries and public gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start it under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order, by mail or express, October 20th, tubers sufficient for 100 plants, at $5.00; 50 plants, $3.00; with directions for propagation and cu'ture.

Strong plants in pots, in April, $1 per pair. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct., 1, 1850—tf

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Important to the Farmer, Farrier, and Stage Proprietor.

Geo. W. Merchant's Celebrated Gargling Oil.

Unparalleled in the History of Medicine as the most remarkable External Application ever discovered for Horses and Human Flesh!

Caution to Purchasers.

This Oil has become so celebrated in the treatment of diseases of the horse, and as a consequence the demand becoming great throughout the country—that the cupidity of designing men has induced them to palm off upon unsuspecting persons, an imitation article for the *Genuine Gargling Oil;* designing thus to ride their *base mixture* into market upon the popularity of the only true article, which now sustains an enviable reputation, which it has acquired by more than fourteen years' use in the United States and Canada.

It is allowed by farriers and all who have used it, to be decidedly the best application for horses and other domestic animals, of any now in use, and may be used as an internal remedy in some cases, with surprising results

A faithful trial of this remedy will satisfy any person that the many cures it proposes to perform are neither magnified nor misrepresented.

The following among many others, in the cure of which this Oil has been completely successful, and in which other pretended remedies had entirely failed:—

Spavins, Sweeney, Ringbone, Windgalls, Poll Evil, Callous, Cracked Heels, Galls of all kinds, Fresh wounds, Sprains, Bruises, Fistula, Sitfast, Sand Cracks, Strains, Lameness, Foundered Feet, Scratches or Grease, Mange, Rheumatism, Bites of Animals, External Poisons, Painful Nervous Affections, Frost Bites, Boils, Corns, Whitlows, Burns and Scalds, Chilblains, Chapped Hands, Cramps, Contraction of the Muscles, Swellings, Weakness of the Joints, Caked Breast, &c.

Remarkable Power which the Gargling Oil possesses in reducing Morbid Animal Fungus, or Excrescences.

Extract of a letter, dated, Sunbury, Pa., Aug. 2, 1850.

Dr. G. W. Merchant—Sir—I must relate a new case in which your Gargling Oil has done great things.

I heard a man telling to-day that his little girl had a sore knee that had had a thick scab on for a long time. He had a Doctor attending it, but he could do nothing with it. What it was I do not know, but the scab was from a half, to one inch thick, and covered the whole knee-pan. He said he had the Gargling Oil in the house, and it struck him that it might cure. He put it on, and in two days half the scab came of. He then applied it the second time, and in a day or two the other half came off, and he found a new skin coming on it, with the exception of a few places. He applied it the third time and now she is perfectly well of it. P. B. MASSER.

Extract of a letter ordering a new supply of Gargling Oil, dated,
North Bergen, N. Y., Aug. 20, 1850.

Dr. G. W. Merchant—Sir—I have sold all but one bottle of the Gargling Oil you sent me. It gives most excellent satisfaction to every one to whom I have sold, whether they use it as a common Liniment in their families or on their horses.

Please send me two dozen of each size bottles, as I think I shall sell it in about that proportion. Respectfully,
D. F. MERRILL.

All orders addressed to the Proprietor will be promptly responded to.

Get a Pamphlet of the Agent, and see what wonders are accomplished by the use of this medicine.

Sold by respectable dealers generally in the United States and Canada.

The following are wholesale and retail agents, viz:—A McClure & Co., Albany; M. Ward & Co, and C. V. Cleckner & Co., New-York; P. D. Orvis & Co., and C. Heimstreet, Troy; L. M. Rexford, Binghamton; R. Steel, Auburn; Wm. P. Mooers, Plattsburgh; Rossman & McKinstry, Hudson; J. W. Williams & Co., and R. Hollister & Co., Buffalo; T. H. Camp, Watertown; Wm. Pitkin, and Post & Willis, Rochester; Lampman & Williams, Syracuse; Greenman & Smith Utica; A. D. Platt, Geneva; C. Canfield & Son, Oswego; Jenner, Sprague & Co., Ogdensburgh; G. W. Schuyler, Ithaca. Dec. 1—1t.

THE SATURDAY EVENING POST.

THE LEADING AND LARGEST WEEKLY IN THE UNION.

THE SATURDAY EVENING POST is now, beyond all denial, the leading as well as the largest Weekly Paper in the United States Its circulation is undeniably greater than that of any other paper, of the same kind in the Union, while its literary contents are allowed, by the best judges, to be unsurpassed. Such tales as "The Deserted Wife," "Shannondale," "The Child Stealer," and "The Two Brides," have placed "The Post," by almost universal admission, a "head and shoulders" above its cotemporaries.

We have now the pleasure of announcing to the American Public, that we have made arrangements with one of the

FIRST NOVELISTS IN AMERICA,

MRS. EMMA D. E. N. SOUTHWORTH, author of "RETRIBUTION," "THE DESERTED WIFE," "SHANNONDALE," etc., by which the productions of her gifted pen will be secured hereafter, (with the exception of an occasional story in a Washington paper)

EXCLUSIVELY FOR THE POST.

Mrs. Southworth, as an American Novelist of great power—a rising Star in the West—has been hailed with acclamation by all those who can recognize genius as well in a native as in a foreign author. We design to commence a

NEW STORY BY MRS. SOUTHWORTH,

about the beginning of the year. How many stories she will be able to furnish during 1851, will depend upon the state of her health, &c We trust, however, that we shall be able to lay before our readers, at least THREE of those splendid productions which have made her name already so distinguished.

In the intervals of Mrs. Southworth's Novelets, we design publishing other and shorter Novelets from authors of admitted celebrity. We have two now on hand, which we shall publish as soon as possible:

THE IRON HAND, by T. S. ARTHUR, Esq,
THE TEXAN HUNTRESS, by C. W. WEBBER, Author of "Old Hicks, the Guide," "The Shot in the Eye," etc.

And mark this! What the proprietors of the Post promise, they perform—or do better. They do not announce a long list of distinguished contributors, with whom they have made no arrangement, and whose stories never appear. Such a system may delude an intelligent public *one* year, but it will not answer a *second* time. If the public are humbugged *once*, it is the fault of the humbugger; if *twice*, it is their own.

In addition to such choice ORIGINAL articles, involving a large outlay of money, the columns of the Post will contain a great amount of Miscellaneous reading—such as the

CREAM OF THE FOREIGN PERIODICALS.

Witty and Humorous Articles, Selections from the Agricultural Journals, Riddles and Conundrums, etc., etc.

REPORTS OF LECTURES—during the past year we gave the celebrated Lectures on Shakspeare by Mr. Dana; and the instructive and interesting ones of Dr. Baird upon Europe—Letters from Abroad—General News—Reports of the Markets—a Bank Note and Stock List, etc., etc.

One or more PORTRAITS of remarkable persons, or PICTURES OF REMARKABLE PLACES are also weekly given

A MORAL PAPER.

In conclusion, we may say—that we shall maintain for the Post the character it has acquired of being a strictly moral paper; one that a parent may allow to go freely before his innocent sons and daughters. We need hardly repeat here, that the Post has done more to prevent the publication and sale of immoral works, than any half-a-dozen other papers in the land. A careful guard shall also be kept, as heretofore, over our ADVERTISING COLUMNS, that nothing of an improper character may obtain admittance.

In short, whatever is calculated to refine, instruct, amuse, or gratify, shall find its appropriate place in the POST; and let the reader mark one thing, whatever others may *promise*, we will not be behind in the *performance*. A paper that has stood for 29 years, steadily progressing all that time, and which has now the *largest* list of subscribers of any paper of the same class in the United States, is not to be left behind in the race by *any* rival.

TERMS.

The terms of the POST are Two Dollars if paid in advance, Three Dollars if not paid in advance. For five Dollars one copy is sent three years. We continue the following low terms for Clubs, to be sent, in the city, to one Address, and, in the country, to one post-office.

4	**COPIES,**	. . . .	**$5 00**	**PER ANNUM.**
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13	"	(And one to Agent, or getter up of the Club,)	**$15 00**	"
20	"	(And one to Agent, or getter up of the Club,)	**$20 00**	"

ONE COPY of the Saturday Evening Post, and ONE of either Graham's Magazine, Godey's Lady's Book, or Sartain's Magazine, for FOUR DOLLARS.

The money for Clubs must always be sent in advance. Subscriptions may be sent at our risk. When the sum is large, a draft should be procured, if possible—the cost of which may be deducted from the amount. Address, *always post-paid.*

DEACON & PETERSON,
No. 66 South Third Street, Philadelphia.

N. B.—Any person desirous of receiving a copy of the POST as a sample, can be accommodated by notifying the publishers, by letter *post-paid.*—Dec. 1—1t.

Pear Seedlings.

THE undersigned offers for sale, 100,000 pear seedlings, from $8.00 to $20.00 per 1,000, and a great variety of dwarf and free stocks for nurseries at low prices—fruit and ornamental; also

Deodar Cedars, 1 to 3 ft., $1 to $3; Araucaria imbricata, $1, Cedar of Lebanon, $1; Thuya filiformis, $1.50; Lonicera Ledebourii, 50 cents; Spiræa Reevsii. 50 cents; ——— prunifolia fl. pleno, 50 cents; Japan Pear, double crimson, 50 cts; Ribes albidum, 50 cts; Spiræa Lindleyana, 50 cents. New Lilacs, fine Double Hawthorns, and a full assortment of ornamental plants, of which a priced list will be sent, post paid, to order.

APPLES—A few hundred extra Dwarf Pyramidal Apples, of the best sorts, in a bearing state.

RHUBARB—Ten thousand Willmott's Early, and Myatt's Victoria Rhubarb.

IVES' WASHINGTON SEEDLING PLUM—(Originated by J. M. Ives, Esq., of Salem, Mass.,) is pronounced by the best judges equal to any American Plum yet produced. It is of great size and beauty, and of delicious flavor. $2.00

Local Fruits.—The Watson Pear, an excellent early pear, (August 20,) handsome, and of good size, of a peculiar and delicious flavor; an old favorite here, where it has fruited above sixty years. The Horseblock or Manonet, Sassafras or Spur Sweet, Holmes and Hightop Apples, are all excellent fruit, descriptions of which may be found in the leading Horticultural Magazines for the years 1849–50. One of each of the above. $2 00. B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass., Oct. 1, 1850—tf.

Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.

July 1, 1850—tf. A. S. BABCOCK.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO,

Premiums to Agents of the Cultivator.

AS an inducement to greater exertion on the part of those disposed to act as Agents, the following Premiums will be paid, in Books, or Implements or Seeds, from the Albany Agricultural Warehouse, to those who send us the largest list of subscribers for our next volume:

1. To the one who shall send us the largest number of subscribers to The Cultivator for 1851, with the pay in advance, at the club price of sixty-seven cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS.
8. A copy of Thomas' "American Fruit Culturist," price one dollar—a very valuable work—or any other dollar book—to every Agent who sends us fifteen subscribers and $10, and who does not obtain one of the above prizes. LUTHER TUCKER.

Albany, N. Y., Dec. 1, 1850.

THE HORTICULTURIST
AND
Journal of Rural Art & Rural Taste.

Edited by A. J. Downing,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

TO all persons alive to the improvement of their gardens, orchards or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "Foreign Notices" present a summary from all the leading Horticultural Journals of Europe; the "Domestic Notices," and Answers to Correspondents, furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest and most valuable works on either side of the Atlantic.

A New Volume, (the 6th,) will be commenced with the January number, 1851, when it is proposed to make some material improvements in the mechanical appearance of the work; and no efforts will be spared, by the editor or publisher, to render the work still more worthy of the liberal patronage extended to it.

Terms—Three Dollars per year—Two copies for Five Dollars. All payments to be made in advance, and orders to be post paid.

☞ All Agents for The Cultivator, and Post Masters generally, are invited to act as Agents for The Horticulturist.

LUTHER TUCKER,
Albany, Dec., 1850. *Publisher, Cultivator Office, Albany, N. Y.*

The Old Gifford Morgan Horse.

THE death of this noted horse, which took place at the stable of Benjamin Gates, in Walpole, N. H., October 30th, 1850, may be considered a public loss, deeply affecting the agricultural interests of the country, cutting them off from the purest source of Morgan blood. *His* stock inherit, in a remarkable degree, the nerve, form, strength and action of the *original Morgan Horse.* For the pedigree of this horse, I would refer the reader to articles from the pen of F. A. Wier, Esq., to be found in the Albany Cultivator, for January and September, 1846, pages 19 and 286.

I consider myself fortunate, however, in having at this time on hand, five colts of his get, all promising well; being very fine colts of their several ages, and from mares of high Morgan blood.

I have a chestnut colored (free from white) stallion colt, two years old the 8th of June last, dam by the Old Woodbury Morgan; also a chestnut colored filly, white stripe in her face, two years old 17th of August last; her dam by the Green Mountain Morgan, grandam, Messenger; also a chestnut colored stallion, one year old last July, no white except about half of one hind foot; his dam by the old General Hebard Morgan. A colt foaled on the 30th day of April last, mahogany bay, with a small star in his forehead, a small spot on his upper lip, and one hind foot nearly to the ancle joint white; his dam, my Green Mountain mare, mother of the two-year old filly described above; and lastly, a chestnut filly, with no white upon her, foaled 20th day of June last, from a mare from which has been raised at least two very fast horses.

My mare, by Green Mountain, and another one by a colt of the old Woodbury, appear to be now in foal by old Gifford. Still I have, in common with others, reason to feel deep regret that so valuable a sire has passed beyond our reach.

The increasing demand for the Morgan stock of horses, through the length and breadth of the United States and the Canadas, is a recommendation in their favor, much stronger that anything that I or any other individual can say or write in their praise.

Waterbury, Vt., Nov. 8th, 1850. C. BLODGETT.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subsbriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.

Farmington, Conn. Nov. 23d, 1850. Dec. 1—6t.

$500 TO $2000 A YEAR.

FIVE HUNDRED AGENTS WANTED
In all the States of the Union,
Including California,

TO CANVASS FOR THE FOLLOWING important and valuable works, which are sold by subscription.

We have now about two hundred Agents in the field, many of them clearing from *two to eight dollars per day.* It will be seen that they are all of a very popular end desirable kind, and calculated to please almost every taste. For further particulars apply (post paid) to the publishers,

DERBY & MILLER,
Auburn, N. Y.

"HOW A FARMER MAY BECOME RICH."

Blake's Farmer's Every Day Book,

Or how a Farmer can become rich—being sketches of Life in the Country; with the Popular Elements of practical and Theoretical Agriculture, and twelve hundred Laconics and Apothegms relating to Morals, Regime and general Literature; also 500 receipts, on health, Cookery and domestic economy; with ten fine illustrations, representing the various scenes attendant upon Farming, etc., By John L. Blake, D. D., author of "Biographical Dictionary," "Family Encyclopedia," &c.

The publishers respectfully announce that they have undertaken the publication of this large and beautiful work, with a view to supply a *desideratum* that has long been felt—a book for *every Farmer's Library*—believing that the venerable author has produced a work that will be worth its weight in gold to every Farmer's family, that thoroughly peruse it. It is proper to state that Dr. Blake is a *practical farmer*, and has reclaimed a sterile and worn out piece of land into a valuable and productive farm—which experience, with his well known qualifications as an author, peculiarly fit him to prepare a book for farmers.

The work contains 654 pages, large octavo, with a motto surrounding each page. It is printed on fine paper, and bound in substantial imitation Turkey Morocco, gilt back. Invariable retail price, $3.00.

Frost's Picterial History of California.

The History of the State of California, from the earliest period of her conquest by the Spaniards, to her acquisition by the United States; with an account of the discovery of the immense Gold Mines, and the quantity of Gold already obtained; the enormous increase of population; a description of the Mineral and Agricultural resources of the country; with adventures and travels among the mines. Also, advice to Emigrants, as to the most desirable *routes* thither. To which is added the Constitution of the State of California, with numerous illustrations, and a Map of California, and the gold mines, in one octavo volume, 500 pages; bound in same style as Mexican War. Retail price, $2,50.

"I am prepared—I have endeavored to do my duty."

The Life of Zachary Taylor,

Late President of the United States, including the closing scenes of his life and death, by H. Montgomery—embellished with a steel portrait and 15 illustrations, in one elegant octavo vol., 463 pages, well printed on fine paper, and bound in substantial morocco, gilt back.

"The lightnings may flash, the thunders may rattle,
He hears not, he heeds not, he's free from all pain,
He sleeps his last sleep, he has fought his last battle,
No sound can awake him to glory again."

More than 20,000 copies of the above work have been sold by us, and the demand is unabated. It is allowed by critics, to be the most complete and authentic copy of any of the works purporting to be a Life of the Great Man of the Age. Retail price $2,00.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per ann.—7 copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be paid in advance.

☞ All subscriptions, not renewed by payment for the next year, are discontinued at the end of each volume.

☞ The back vols. can be furnished to new subscribers—and may be obtained of the following Agents:

NEW-YORK—M. H. Newman & Co., 199 Broadway.
BOSTON—J. Breck & Co., 52 North Market-st., and E. Wight, 7 Congress-st.
PHILADELPHIA—G. B. Zieber.

Advertisements—The charge for advertisements is $1, for 12 lines, for each insertion. No variation made from these terms

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

(5-3408)

NEW SERIES. ALBANY, JANUARY, 1851. VOL. VIII.

Progress of Agriculture.

Improvement in Agricultural Implements.

IN view of the great attention which has of late years been devoted to agriculture, the question is sometimes asked—What have we gained? The inquiry is a proper one, and deserves serious consideration; for if all the expense of labor, time and money, which has been spent in attempting improvement has failed, in reference to that end, it is time to pause in our career, and either abandon the object of pursuit, or seek to obtain it by some more practicable means. If, on the other hand, our efforts have been in any degree successful, it is important to know wherein, and at what cost. We should take a careful retrospect of our journey, endeavor to measure our progress with accuracy, and place such landmarks at the different stages, as will serve as guides to those who may come after us.

We propose to notice in this and succeeding numbers, some of the improvements in agriculture which have been introduced in this country within the observation of many who are still engaged in that branch of industry. We here use the term improvement in an economical sense, our design being chiefly to show wherein ingenuity and skill, as applied to the cultivation of the earth, have been made conducive to a better return for labor.

Various important points have been gained in the different branches of husbandry, though it is in the implement department that improvement has been most conspicuous, and it is to this source that we are in a great measure indebted for our improved modes of tillage.

THE PLOW may be regarded as forming in part, the basis of agriculture, and for this reason it is proper to consider, in the first place, the improvements of this implement. We cannot here specify all the changes which the plow has undergone from the earliest ages. A comparison of the figures representing the plow used by the ancient Egyptains, or Romans, with those in use among the most civilised nations at the present day, shows a striking contrast; though there are instances, as with the Moors of Africa, and the Spanish settlements of America, in which but little advance has been made from the most primitive rudeness of the implement. It is, however, chiefly within the present century, that the most important improvements in the plow have been made. The substitution of cast-iron for the wooden mould-board was made in Scotland towards the close of the last century, and about that time considerable discussion began in Great Britain in regard to the proper construction of the plow. This discussion was subsequently extended to this country, and the improvement of the plow became a prominent object with our agricultural societies. Still it was several years before any material advance became perceptible, and it may be safely assumed that the most valuable improvements have been added to the implement within the last forty years, and the greater portion of them within much less time.

The results of the modern improvements in the plow, may be comprised under the following heads:

1. Greater ease of draft. This item alone has lessened the expense of plowing in many instances fully one half. Formerly, it was common in "breaking up" or plowing sward, to use four oxen or horses, with sometimes an extra horse as a leader; the manual force being a plowman, a driver, and, if the land was at all stony or hard, a hand to bear on the plow in particular places. Lands in the same condition are now plowed with two oxen or horses, with only one man, who is both plowman and driver, more land being plowed in a day, and at a greater average depth, than before. This ease of draft is owing partly to the wearing surfaces of the plow being hard and entirely smooth, and partly to the form being more nearly that which is calculated to accomplish the work with the least resistance.

2. Superior execution of the work. A great gain has been effected in this respect. The better condition in which the soil is left by the improved plow, saves much of the expense of after cultivation, and insures a much larger return in the crop. In the culture of Indian corn and other hoed crops, the amount of hand labor is reduced at least twenty per cent. There is less grass to be subdued by the hoe, while at the same time the vegetable and earthy matters of the soil are brought into the state from which the crop derives the most support.

3. Adaptation to special purposes. Something has been gained in this respect. It has been discovered, for instance, that soils which are too light, should be plowed in a different manner from those which are too heavy; that rough and uneven lands require a different plow from those which are smooth and level; and some attention has been given to the manufacture of implements best fitted to accomplish the various objects desired. This is an important point, and the encouraging results which have already been attained, should stimulate to further exertions in this direction.

4. Cheapness and durability. It is a gratifying and somewhat remarkable fact, that in addition to all the above advantages which the improvement of the plow has secured, the implement is afforded at about half the cost, and is also much more durable.

The Shovel.—This implement has undergone almost an entire change within the recollection of living witnesses. The shovels first used by some of our oldest farmers were entirely of wood. They were made by working down a thick plank, commonly of maple, till it assumed as near as possible, the requisite form. Sometimes a thin and narrow strip of iron was nailed close to the edge, to keep it from being split. To use these shovels the earth had first to be thoroughly loosened by the crow-bar and pick, and even then, it was not uncommon for one man to use a hoe for the purpose of loading a shovel used by another.

This wooden shovel after a while, gave place to an iron-shod one. This differed from the first mentioned only in having a plate of iron, about three inches wide fastened to the edge. In some of the best of this kind, the iron was grooved, and the blade of the shovel inserted into the groove. This was deemed a great improvement, and when shoveling was to be done, the laborer deemed himself fortunate if he could be allowed an iron-shod shovel.

The next improvement consisted in substituting sheet iron for the plate or body of the shovel. The iron was turned at the sides and top, so as to form a rim. A round socket was made near the top, into which a straight stick was driven for a handle. In other respects the plate was entirely flat, and in shape bore little resemblance to the shovel now in use. It was, however, thought to be a great advance on the former kinds. Still it was but a clumsy and inefficient tool, compared with the highly finished shovel now made. The blade was soft, and it had so little substance, that in attempting to force it into the earth, it soon became so bent and twisted as to be useless.

It may be safely said that a man can, with the same expenditure of strength, perform twice as much work in the same time, with one of our best modern shovels, as he could with either of the kinds before described. This important improvement has been effected mostly within the last forty years, and it is not too much to say that the credit of it belongs principally to a distinguished manufacturer of Massachusetts, whose shovels and spades, for utility and value, are unrivalled in the markets of the world. This is, in fact, so generally acknowledged, that the stamp of "O. Ames" is everywhere regarded as a sufficient guarranty of the quality of the article.

Hay and Manure Forks.—A great improvement has taken place in these tools. Until within a few years, they were made very heavy and unwieldy. The tines were iron, untempered, and to give them the requisite strength, it was necessary that they should be large. This not only exhausted the strength of the laborer in carrying useless weight, but prevented the easy working of the implement. Notwithstanding their size and weight, they soon got sprung out of shape. Manure forks were made of rods three-fourths of an inch thick, and they would only answer for the coarsest and most fibrous manures.

The neat steel-tempered forks now made by Partridge and others, though of not more than half the weight of those in former use, are much stronger, and a man will accomplish much more in a day with them and with less fatigue, than with the old kind. The manure forks are made with such nicety that they are used instead of the shovel to a great extent, as work can be done with the fork with greater ease and despatch.

The Ax has been the most important implement in effecting the first great change in the appearance of the country.

> "With the pioneer ax what a conquest is made;
> What a field from the forest is won!
> What regions, reduced from the wilderness shade,
> Are now warmed in the beams of the sun!"

This implement has been greatly improved. No "chopper" who has ever used a "Simmons" or a "Collins" ax, would willingly go back to the ill-shaped things in use fifty years ago. There is also a great advantage in the modern implement on the score of efficiency and cheapness. It is a maxim that "necessity is the parent of invention;" and the great use required of the ax in this country, may have been the chief cause of its improvement; at any rate we believe it may be said that the "American ax" has reached a perfection unknown in the old world.

◆

High Farming.—A correspondent of the *Ohio Cultivator* states that at the last exhibition of the Stark county Agricultural Society, the following account the produce of 7½ acres of land, owned and worked by Wm. Pinn, a "citizen of color," two miles from Massillon, and certified to by J. J. Hoffman and Samuel Pease, Esqs., was presented to the Board:

46 bushels dried sweet corn, worth $4.50	$207 00
16 bushels common [sweet] corn, $3,50	56 00
483 doz. brooms, or corn for that number, 62½	301 88
150 bushels broom corn seed, 20c. per bu	30 00
36 bushels corn, 25c	9 00
20 bushels apples, 26c	5 00
Fodder estimated worth	12 00
	$620 88

Practical Husbandry.

Market Gardening and High Farming.

EDITORS OF THE CULTIVATOR—I have been taking a look at the market gardening and other modes of cultivating the soil in the vicinity of the city of Boston. The amount and profit per acre obtained by the systems of culture there practiced, is truly surprising.

I first visited the grounds of GEORGE PIERCE, Esq., in West Cambridge. He cultivates twenty-six acres of land, all told. At the time of his purchase, his land was a light sandy loam, in a worn out condition, and would have been called the poorest kind of 'plain land.' He has spared no pains to redeem it from sterility. Manure has been largely purchased at the city stables, costing $7 per cord, when delivered on the farm. His whole annual purchase of manure amounts to from $800 to $1000. In applying it to the soil, the principal rule observed is, to put on all that can possibly do good.

Mr. PIERCE considers that a light warm sandy loam is the most favorable soil for market gardening; and that although at first it may be comparatively unproductive, yet, when made fat by high cultivation, the crops are sure, and the land is more easily worked than heavier loam.

Seven acres are principally devoted to the raising of fruit. In the apple orchard, the trees stand thirty-six feet apart, each way. As they are now mostly large trees, the ground is pretty much given up to them. A moderate coat of manure is spread over the surface each spring and plowed in, without particular reference to the roots of the trees, but with special care to prevent the barking of their trunks. All weeds are kept down, that the trees may have full possession of the soil. The apples are in consequence large and fair, the product is large, and the fruit brings top prices in the market. While the trees were young and growing, heavier dressings of manure were applied to the ground, and the open spaces between the rows were occupied by vegetables for the market. By means of this constant working of the land, the trees begin to bear some fruit in six years from the time they are set out; and in thirteen to fifteen years, they will produce, in favourable seasons, an average yield of five barrels per tree. From four trees of the Porter apple, Mr. Pierce last year sold twenty-four barrels of apples, so large, smooth and fair as to command five dollars per barrel. Mr. Pierce is particular in so training the branches of his young trees as to prevent them from shading or otherwise interfering with each other; and the branches are encouraged to start out low on the trunk, to protect its sap from too high heat by the rays of the sun.

Four years ago, an apple orchard was planted out, embracing four acres, the trees standing in rows thirty six feet apart, each way. At the same time, about 1000 peach trees were planted between the rows of apple trees, twelve feet apart each way. The land, for several years previous, had been devoted to market vegetables, under high cultivation. The growth of trees is very remarkable; and the peach trees are now bearing finely. Being short lived, they will soon be out of the way of the apple trees; and then, for a few years, vegetables will be grown in the open spaces.

Nineteen acres are devoted to the raising of vegetables for the Boston market. As before intimated, this land is highly manured; it is also deeply worked, as deep as the plows can be made to run. A great variety of vegetables is here raised, in order seasonably to supply the successive requirements of the market. For several weeks, in the height of the producing season, two and three wagon loads are daily sent to market, embracing twelve to fifteen varieties of vegetables.

It is a leading and principal idea with Mr. PIERCE, so to adapt different vegetables to the land and to each other, as to obtain at least two, and often four crops in a season, from one and the same piece of ground. For instance: on one plat of land, early radishes are sown broadcast, and early peas are sown in double drills, say five feet apart; at the proper time, either squashes, melons, or cucumbers are planted between the rows of peas: the radishes get out of the way of the peas, and the peas get out of the way of the vines; and thus three crops are successively matured. Enough manure is put on to the ground in the spring to afford full sustenance to all the crops. On other ground, early potates are raised, and marketed in season to sow turneps and obtain a full crop. Or perhaps after the potatoes the land will be sown in August to onions. In the fall they are covered with swamp hay or other litter; they remain in the ground through the winter without injury; in May following they are ready for market, and in June the land is ready for any other crop. Or perhaps after the potatoes, spinage is sown for greens, and the next spring the land is clear.

It is also a leading idea to get all kinds of vegetables into the market at the earliest possible period; for any article, appearing there a week or two before its usual time, commands a very high price, which richly rewards any extra labor or pains. Mr. Pierce has extensive hot beds for forwarding his various productions for an early market. He has 250 sashes, or some 1400 surface feet of glass, under which all sorts of vegetables are started. Last spring he went largely into the production under glass of early dandelions for greens. The receipts from this source, in March and early April, amounted to $3 per sash, or one shilling per surface foot of ground.

Tomatoes are sown under glass; and as it is important in early spring to economise the room in the hot beds, they are first transplanted from the seed bed to a vacant space in the hot bed, six inches apart, and when too large to stand so closely, they are again transplanted twelve inches apart, and when the weather is right, they are taken up and placed in the open plat where they are to mature. At one picking of tomatoes, this season, 32 bushels were obtained, which, from their earliness, sold at $1.75 per bushel. Pole beans are produced early by digging large deep holes for the hills and filling them partly with fresh hot horse manure; over that a suitable covering of earth is placed, and the beans are planted. For all *early* vegetables the ground is stoutly dressed with hot horse manure, which is plowed in, and which, by its fermentation, keeps the land warm and mellow, and brings the plants along very fast. Early potatoes are first started either on manure heaps undergoing fermentation, or in hot beds; and when the weather will admit, and the sprouts are six to eight inches long, they are carefully taken up by hand and transplanted in the drills in the open plats. This process forwards the crop from fifteen to twenty days. On one quarter of an acre, managed in this way, this season, 81 bushels of marketable potatoes were dug, which, for their earliness, sold at $1.75 per bushel, or at the rate of $567, per acre.

In visiting Mr. Pierce's grounds, I was most interested in a field on the borders of Spy Pond. Originally a high bank, shut down nearly to the water. This bank was dug away and tipped into the pond, until a long strip, or three acres of land was made, which was raised eighteen inches above the surface of the water. The earth taken to make this land, was a sandy and fine gravelly subsoil, with the exception of two or three inches of the top, which was surface mould, placed there to form an immediately tillable soil. The waters of the pond will come into and stand in a hole dug any where on this land, more than eighteen inches deep; and the moist exhalations from below keep the surface so moderately moistened, that the growing crops do not suffer in the driest seasons. The land being of a sandy and fine gravelly nature, it admits of much moisture without becoming cold, heavy or baked; and as it has been abundantly enriched with manure, it produces the finest of vegetables when, perhaps, other fields are suffering severely with drouth. The crops are grown upon ridges or beds, formed by back furrowing with the plow, and varying from two to six feet in width. This is done to prevent any bad effects that might otherwise arise from heavy rains, falling upon a flat surface, already moist enough. In general, three crops are taken from this land, each year. For instance, on the wide beds, a row of early beets grows on each border; a row of hills of summer squash in the centre, and celery in the dead furrows. The beets are first off, and then the squashes, and the soil composing the beds is used in earthing up and bleaching the celery. Mr. PIERCE's average *weekly* sales of *vegetables* for nine months, in 1849, were as follows:

In March,	$49 00
April,	50 00
May,	80 00
June,	90 00
July,	140 00
August,	139 00
September,	140 00
October,	180 00
November,	39 00

The total cash receipts for the sale of fruits and vegetables, for 1849, were as follows:

Of Peaches,	$591 60
Porter Apples,	148 60
Bartlett Pears,	18 12
Bell do	4 75
Greening Apples,	12 50
Baldwin do (windfalls,)	36 00
30 bbls do picked,	185 50
	$997 07
Total vegetables of all kinds,	2,629 72
	$3,626 79

These are certainly large receipts to derive from the products of twenty-six acres of land. It is true that Mr. Pierce has the advantage of a ready market and good prices; but after making every allowance that exists, or can be thought of, I think we must all conclude that high cultivation is the true system; that

> " '*Tis folly in the extreme* to till
> Extensive fields, and till them ill;
> For more one fertile acre yields
> Than the huge breadth of barren fields."

I next visited LEONARD STONE, Esq., at his farm in Watertown. Mr. STONE's home farm consists of 15 acres of woodland and pasture, 25 acres of reclaimed meadow, and 80 acres devoted to fruit, market gardening, and a rotation of field crops. The largest portion of his tillage land is a stiff, moist loam, resting on a substratum of clay; and although the surface is quite rolling, it requires a great deal of draining to fit the soil for profitable tillage. The balance of the tillage-land is a light, dry, warm loam, with some very gravelly knolls, and the whole rests upon an open gravelly subsoil.

The owner has for several years been clearing his tillage-fields of stones, which were formerly so numerous as to be much in the way of the plow. They have been sunk in the construction of drains, and thus the surface of about every acre of the stiff land has been relieved of both stones and surplus moisture. The ditches for drains are dug about three feet deep, and of convenient width to work in; in them, drains are first laid, six inches wide and ten inches high, of small cobble stones, and covered with larger sizes of the same; the ditches are then filled with small stones, to within a foot of the surface of the ground; a layer of shavings or tough sods is then put on, and the work leveled up with loose earth. The drains thus constructed have stood from eight to twelve years, and still work well.

There are two reclaimed swamps on this farm, of about twelve acres each. They are underlaid at suitable distances with stone drains, wherever there is sufficient fall to the land to produce a good draught through them; and where the land is nearly level, open ditches are made. The open drains used frequently to become inoperative by the washing and caving in of their banks—occasioned by high freshets in the spring. After various experiments, the following plan for their protection was adopted: As early in the summer as the water had fallen away so as to admit of working, a commencement was made at the lower end or outlet of the ditch, by throwing a temporary dam across it, a few rods above or up the ditch; the portion thus freed of water was then cleared out; the sides were made of a uniform and proper slant; narrow trenches were dug, four inches lower than the natural level of the bottom of the ditch; sods were cut from the swamp, six inches wide, eighteen inches long, and four inches thick; then, commencing in the narrow trench, four inches lower than the bottom of the ditch in order to prevent the undermining of the work, and following up the slanted sides with one course thick of sods, and breaking joints in the upward course the same as is done in laying brick, and laying the sods grass side down, the wall or sodding was carried up nearly to the surface of the swamp; a sufficient portion of the surface was pared down to a level with the wall to admit of a sod on top, laid grass side up, and level with the surrounding swamp, and resting on the sod wall and on the natural ground; the face of the banks was then trimmed smooth with a spade, the temporary dam moved further up the ditch, and so on, till the whole line was completed. The grass immediately started from the edges of the sods, and before winter, the whole surface of the banks was well covered with grass. These banks have stood perfectly for nine years.

In draining the bog meadows, a ditch has been dug three feet deep and four feet wide, the whole length of the border between the uplands and the meadows. In this a stone drain was first made, then the ditch filled with stones, and a stone wall built on top for a fence, by which three purposes have been accomplished; the stones from the uplands have found a resting place, out of the way of the operations of tillage; the springs flowing into the swamps from the uplands have been cut off; and the earth taken from the ditch is just the thing for a covering for the meadows. When the drainage is completed, those parts of the meadow that have dried off enough to bear up a team are plowed, and those that are still too wet and miry are turned over with a bog-hoe. When the surface of the meadow is frozen, clay, loam or gravel, whichever is handiest, is carted on and spread one and a half inch thick, or at the rate of about an ox-cart load to each square rod of ground. On the top of that a good coat of compost made of loam and manure is spread, and then a half bushel each per acre of herds-grass and red-top seeds sown. After this, most of the land can be plowed; and as often as the cultivated grasses need renewing, the sod is turned over in September with the plow, manure applied on top, and grass-seed sown. Forty tons of hay have been cut in a season, on twelve acres of the reclaimed meadow.

Mr. Stone plows and manures about 25 acres of his upland, yearly. A part of this, however, is not cropped at all, but is kept open for the benefit of the trees growing thereon. The balance is devoted to the growing of vegetables for market, the raising of carrots and other roots for the stock, and the cultivation of field crops. For the land that grows vegetables, he purchases horse manure from the city stables and mixes it with compost made by the hogs, in order to start the crops early. For all other crops, the manure used is wholly made on the farm, and is applied at the rate of thirty loads, of twenty-five bushels each, per acre. Mr. Stone is in favor of deep tillage. He plows his land as deep as the soil will admit, gradually increasing the depth, until, on some of the fields, his largest sod plow, will go no deeper. He thinks that almost any land may be advantageously deepened by turning small portions at a time of the subsoil to the surface, to be converted by sun, air, frost, and manure, to productive loam. Under this system of deep plowing and high manuring, his crops are all luxuriant, and when those portions of the land devoted to a rotation of crops are laid to grass, he thinks they give him an average of two tons of hay to the acre, at a first cutting. Two hundred loads of first crop hay have been put into the barns this season, fifty of which, with the rowen crop, the corn-fodder, roots, &c., will keep his own stock, and leave the balance for market.

A good deal has been done, with excellent effect, in the admixture of the different soils upon the farm. Four horses and four oxen are kept for farm-work, and at leisure times they are employed in exchanging soils. The muck from the low meadows is drawn to the yards for compost, and from thence to the upland fields. As before remarked, the lowland meadows receive a coating of clay, loam, or fine gravelly subsoil, the latter of which is found to be the best, for it supples in greatest quantity, those matters that give strength of stem to the cultivated grasses, and which are deficient in the peaty soils. In various places on the upland stiff soil, the underlying clay comes through to the surface, and the land retains too much moisture, in some seasons. On all such places, from one to three inches of sandy or gravelly loam are spread, with an effect upon the crops that is apparent to the observer in a moment.

So, too, on the dry, gravelly knolls, an application of two or three inches of clay from the stiff lands, changes the whole aspect of the vegetation growing there.

The most important production of the farm is fruit; the average annual yield of Baldwin and Russet apples, being about 1,000 barrels. Other varieties are raised, but these two are the principal. The old orchards are manured and plowed each year, but no crop is taken except that afforded by the trees. In younger orchards, the open space between the rows of trees are devoted to vegetables for market. The apples are carefully picked from the trees by hand, packed in barrels, and stored in a dry, airy fruit cellar under one of the barns. The farm produces a variety and abundance of other fruits, such as pears, peaches, plums, cherries, quinces, and summer and fall apples.

About ten acres are devoted to market vegetables, in all the varieties. The details of their cultivation would be a repetition of those already given in the account of Mr. Pierce's cultivation. While at Mr. STONE's I saw a market wagon loaded, and had the curiosity to take an account of the various articles sent off. They were as follows: tomatoes, onions, beets, summer squashes, cucumbers and mangos and string beans for pickling, potatoes, green corn, pole beans, apples, peaches, and pears.

Mr. Stone has a farm of 60 acres a mile or two from home, which he rents for $600 per annum. He remarked to me that his tenant paid his whole rent last year from the sales of the cucumbers raised on five acres—leaving the proceeds of the remaining 55 acres at his own disposal.

Mr. S. keeps about 20 head of cattle and horses, and from 40 to 60 hogs. Shoats, weighing from 100 to 120 lbs. each, are purchased at Brighton market, spring and fall, fed six months, then slaughtered and taken immediately to market. At killing time, they average from 275 to 300 lbs. each, dressed. All the refuse fruits and vegetables of the farm are fed to them. A kettle or cauldon holding 600 gallons and set in an arch, is mostly filled with vegetable products, to which is added six bushels of meal, and the whole is then boiled. The contents when cooked are taken out, and to the mass is added an equal measure of *slimes*, purchased at a starch factory. These *slimes* are the best part of the washings in the process of making starch from flour. For the last six weeks, the meal is increased in order to get the hogs into a high state of fatness. The yard in which the hogs run is well supplied with muck, turf, weeds, and all sorts of refuse litter, and these materials are mingled and enriched by the swine. When not at work, the horses are stabled all, and the oxen most of the year. The other cattle of the farm are stabled most of the time in the winter, and the cows nights through the summer. Their stables are directly over the barn cellar, into which the manure goes; suitable quantities of muck, loam, turf, &c., are frequently added to the manure, the hogs have free access, and the materials are well mixed. In these ways some 600 loads of compost, of twenty-five bushels each, are annually made.

Mr. Stone showed me a statement made by him, at the request of the Commissioner of Patents, of the whole amount of his receipts and expenditures for three years. Here it is:

Whole amount for hay sold,		$4,257 00
do do pork,		4,552 00
Fruits, vegetables, stock, &c.,		10,025 00
		$18,834 00
Amount paid for labor,	$3,521 00	
do grain and feed for hogs,	2,058 00	
do shoats,	1,575 00	
do manure,	373 00	
do provisions,	260 00	
do goods,	707 00	
do taxes $310, and stock, $309,	619 00	
do miscellaneous items,	1,025 00	
		10,139 00
		$8,696 00

I think these results quite naturally remind us that too many of our farmers, by scattering limited labor and means over unlimited acres, mostly dissipate the former, and at the same time wear out the latter; and fertility having been once sapped, the further application of the old system, becomes emphatically, a lengthening, wearisome chase after lean and scattering crops. In the older settled districts of our country, we need to commence a severe condensation in our farming,—to learn a juster adaptation of capital, labor and land to each other. Our farmers can only realise substantial profits, and maintain independence and true dignity, by good cultivation.

Scanty crops offering no cheer to labor, it becomes laggard and faint: large crops stimulate labor; it easily surmounts obstacles, burdens lighten; it becomes pleasure. F. HOLBROOK. *Brattleboro'*, *Vt.*, *S'pt.* 5, 1850.

Agricultural Education.

EDUCATION forms and perfects the mind. It commences with the first dawn of intellectual light, and is not completed till the senses are paralised by age or destroyed by death. The early instructions of parents, the influence of associates, the accomplishment of labor, and the observations and experiences of daily life, all help form the individual character and educate the man. A small part of the sum total of education is derived from books—it is received from all sources where the senses communicate.

A GOOD EDUCATION, is that amount of knowledge in kind and quantity, that fits an individual for his situation and pursuit in life, and to discharge aright the duties that the Almighty imposes upon him. Although the education of all commences alike and for a few years is the same, yet different vocations require a different direction of the mental powers

Hence the clergyman, physician and lawyer, after pursuing their classical studies together, take widely different courses as each fits himself for his particular occupation. The merchant, mechanic and farmer are school-boys alike, but when books are laid aside, the first engages in learning the mysteries of trade; the second educates his mind to contrive and plan his work at the same time that he educates his hands to perform that work skillfully, and the other goes to

> "Work, work, work,
> From morning until night,"

his severe physical labor unfitting him for mental exertion; the mind in some degree becomes inactive, and consequently he is not in much danger of porgressing beyond the knowledge of his fathers. In regard to *book knowledge*, the notion that was formerly almost universal, prevails to a great extent now, that the farmer and mechanic required but very little. To read, write and cypher with facility—but few, however, acquired as much as this—was considered enough for all practical purposes, though if the scholar was "quick to learn," it was well enough to know something of geography, grammar and history. When *too old* to go to school, (which happens just about the time he is old enough to be of service on the farm,) books must be laid aside so as not to interfere with labor. No wonder that in years past there has been such a *rush* into the professions by those who loved study, and into mercantile and mechanical pursuits by those who loved excitement. The drudgery of the farm could not be endured to the extent that might have been thought desirable, although opportunities to "go a fishing" and the freedom of "Independence" and "Training" days, operated as a kind of safety-valve to relieve the pressure incident to a monotonous life.

Farmers as a class are *not* educated. They do not study like the professional man, to prepare themselves for their vocation and to become acquainted with all its details. Surrounded by Nature in all its sublime manifestations, every year they witness the rise, progress and decay of vegetation; they see leaf and flower expand, seed and fruit grow and mature; they walk the earth and breathe the air, profoundly ignorant of the laws that govern the vegetable world; of the process of vegetable life in the production of leaf, flower and fruit; of the elements and composition of the earth and air; of the relation subsisting between the mineral, vegetable and animal kingdoms, and of the changes that are constantly taking place in them. Almost all agricultural knowledge has been gained by practical experiment, which is a slow and tedious process, and influenced by so many controling circumstances that it is seldom to be relied on as absolutely correct. Not of the shepherd alone is the language applicable,

> "The *little* knowledge he had gained,
> Was all from simple nature drained."

We have just entered on the threshold of agricultural knowledge. Before us is a broad expanse, vast and limitless, all unexplored, and like the Israelites on the borders of Canaan, we see the promised land but are afraid to enter. We do not feel able "to go up and possess it." In view of the sciences that relate to agriculture, the immensity and the nature of the knowledge which they contain, we are almost led to say with the Psalmist, "Such knowledge is too wonderful for me; it is high, I cannot attain unto it."

The early education of children is under the direction of their parents, who are naturally their teachers. As is the parent, so to some extent will be the child. He forms the same habits, adopts the same ways of thinking, has the same kind of ideas and the same opinions. If the parents are unlearned and stupid, thinking little and reasoning less, there is but little prospect of the child being otherwise. Early teachers and associates exert a powerful influence, and according to the effects of such influence will be the child's future destiny. In this sense "the boy is father of the man."

Children are inquisitive, observing and imitative. If these faculties are unrestrained they will be ever learning. They soon become acquainted with the habits and uses of domestic animals, and the methods of performing the various labors of the farm. As they grow older they learn to distinguish the different productions of the vegetable kingdom—as trees, grasses, grains and weeds—and the different kinds of each. But why is their knowledge of nature restricted to a certain amount? Why can they not learn Botany, Geology and Mineralogy as easy as Grammar, Geography and Mathematics! These sciences might be partly learned while performing the labors of the farm. But here is a difficulty—they have no teacher. Farmers have not learned such things, and they do not see the need of it, and as soon as their boys are large enough to labor they cannot afford to send them to school, especially in the busy season of the year. But if they knew their true interests they would see that they could not afford to have them ignorant.

But, as before implied, education is not confined to schools. An intelligent, scientific farmer can instruct his children so that in their education there will be a constant advancement. The lessons and illustrations can be found in their walks and labors; they can then investigate the phenomena of Nature, and if they please learn science. By examining plants they may learn their names, the class and order to which they belong; the different parts of stalk, leaf and flower; the relation each sustains to the other, and the office each performs in the economy of the whole plant. Flowers, those "perfect specimens of God's handiwork," afford a study that may be made intensely interesting, as exhibiting infinite wisdom and skill in their formation; beauty in their color and shape, and perfection in the purposes they serve. Also, minerals may be examined and compared, their properties investigated and the proportion in which they exist in the composition of different rocks learned. It may be shown that the crumbling down of rocks and the admixture of vegetable matter, form soils, which according to the presence or absence of certain elements are rendered fertile or barren: that the elements which compose vegetable substances are derived from the soil and atmosphere, and that these support animal life and promote animal growth. In this way, by improving the means within reach, the young may be educated in the sciences that relate to agriculture, and there may be a constant progression. But some perhaps who almost consider it sacrilege to be wiser than their fathers were, may inquire, "What is the use of all this learning?" True, it may not be of much *use* simply to know what is quartz, feldspar, limestone, potash or soda, or to know that stamens and pistils are a part of blossoms, but it is beneficial in connection with this, to know what soils are adapted to different vegetables; what vegetables are best for the growth of animals; and what causes fertility or sterility in plants that produce fruits, as well as in soils that produce vegetables. We might retort back upon such querists, and ask them what is the use of ignorantly laboring a whole life in obedience to the thought, "What shall we eat? or, What shall we drink? or, Wherewithal shall we be clothed?" and measure our success by the amount of property we expect to leave our heirs?

"A man is known by the company he keeps," and equally as well by the paper he takes, or the book he buys. We do not expect to find an intelligent family where there are no papers or books, neither do we expect that farmer to keep up with the times, who does not read his agricultural journal. The various agricultural books and papers now published, have a wide-spread influence, and may be considered as great and efficient helps in acquiring an education, and as such, are not to be neglected.

Some of our colleges have established an agricultural department in their respective institutions, for the purpose of teaching agricultural science. This is very laudable, but it does not fully meet the wants of the people. Practice must be taught with theory, to be effective; for, though a man may understand all science, if he does not know how to labor, he would starve if the support of his physical system depended upon his own exertions. The efforts that have been made in New-York and Massachusetts to establish Agricultural Colleges, are worthy of much commendation, and will no doubt, ere long, be successful. Such schools, rightly conducted, will exert a tremendous influence over the future destiny of our country, although but few, comparatively, may avail themselves of the facilities thereby presented, for acquiring an education. But their beneficial effects will be in a great degree owing to their reflex influence. This will be according to the success of the graduates in the communities in which they reside and labor. If they are successful in carrying out the principles they have learned, their neighbors will adopt the same measures, and pursue a like course in the management of their farms. Thus knowledge will be increased. But no doubt the instruction imparted in these schools would be much more efficient if the agricultural and scientific education of the pupil was commenced by their natural teachers at home. Having learned the rudiments of science, they would make greater proficiency on entering the schools, and when their school education was completed, they would be better prepared to pursue their studies in the book of Nature.

There is to the farmers "a good time coming," undoubtedly. They are awaking from the long, dreamy sleep of years, to a sense of their capabilities, their rights, and their proper position among men. The advantages of a good education are being appreciated; science is called to the aid of experience; better modes of husbandry are sought out and adopted, and every new discovery is leading to others no less important. Indications of good are all around. To the young, especially, who have chosen agriculture as their vocation, there are encouraging prospects ahead, such as their fathers never knew. With so many means within their reach, to acquire an education suited to their wants, it may not only be a pleasure, but it is positively a *duty* as it will be so necessary to success in life. There should be a love of knowledge, and a resolution to obtain it, and—

> "In the lexicon of youth, which fate reserves
> For a bright manhood, there is no such word
> As FAIL."

East Weare, N. H. W. L. EATON.

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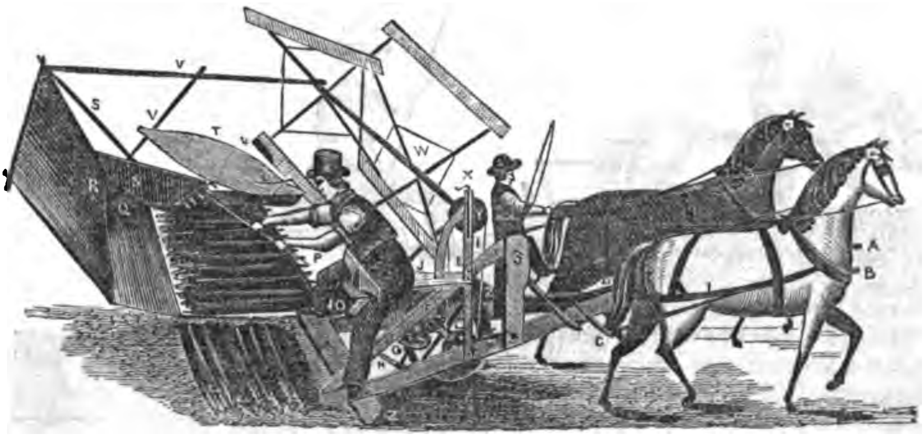
HARVESTING MACHINES.

IN our November number, we gave a letter from Mr. DENNISON, an English correspondent, making some inquiries in relation to machines used in this country for cutting grain. In answer to those inquiries, we have received several communications, furnishing much useful information. In connection with these, we give also cuts of Mr. McCORMICK's and Mr. HUSSEY's machines. EDS.

Letter from the Inventor of McCormick's Reaper.

EDITORS CULTIVATOR—I most cheerfully comply with your request, in furnishing the following "particulars respecting Reaping Machines," in answer to your London correspondent, so far as I can give the information he desires.

I have manufactured at *this place* the three last years, for use on the prairies of the *west*, 500, 1,500, and 1,600 of "McCormick's Patent Virginia Reapers," and am now engaged in providing a like supply of them for the next harvest. I sell my reaper for $115 cash, or $120, part cash and part on



M'CORMICK'S REAPER.

time. Four horses (or mules,) are required to operate the machine throughout the day, without a change, though the draft is not more than two horse power; and it is attended by a boy to drive the team, and a man to rake the grain from it into gavels of suitable size for sheaves. Six or seven men, (or "women," as the case may be,) are required to bind and shock the wheat. This is the estimated labor of harvesting wheat that stands up, and yields, say twenty to thirty bushels per acre. If the wheat be heavier, and fallen, the operation will of course be more difficult, and the speed retarded.

This reaper has uniformly been warranted to cut one and a half to two acres of wheat or other small grain per hour, (equal to fifteen or twenty acres per day;) to save at least three-fourths of the wheat that would be scattered by ordinary *cradling;* and it is also warranted to be durable. Perhaps the best evidence of the *satisfaction* given by the Reaper has been the continued large and increasing demand for it. It is constructed to cut as high or as low as required, and the *saving* of wheat by it, over that cut by the *cradle*, is estimated at not less than one bushel per acre, and in some situations more; the whole operation being more perfect than can possibly be done by hand labor in any way, and without being materially obstructed by "May-weed, thistles, dock, &c." "What will be the expense, per acre of wheat," may be calculated from the foregoing. The following is the estimated cost here, as taken from a certificate signed by some hundreds of farmers who have used this Reaper, viz:

Cost of Cradling and binding 16 acres of wheat; 8 cradlers and 8 binders, at $1,25 each,		$20 00
Cost of cutting and binding 16 acres of wheat with the reaper; two men, or a man and a boy with the machine, at $1,25 and $1.00,	$2 25	
Five binders, (the grain being raked into gavels,) at $1.25,	6 25	
Use of four horses, (this number of horses in fact only nominal,)	1 50	
Total cost,		10 00
Which deducted, shows a saving in labor of half the whole expense, being per day saved,		$10 00
Amounting at $10 per day, in cutting a harvest of 240 acres, to	150 00	
To which add one bushel of wheat per acre, saved extra, (which is the lowest estimate made,) at 40 cts per bushel,	96 00	
Making a total saving, in a harvest of 240 acres, of	$246 00	
The cost of the labor per acre by this estimate, is	62½	cents.
From which deduct for a bushel of wheat saved,	40	
And the actual cost is found to be, per acre,		22½ cents

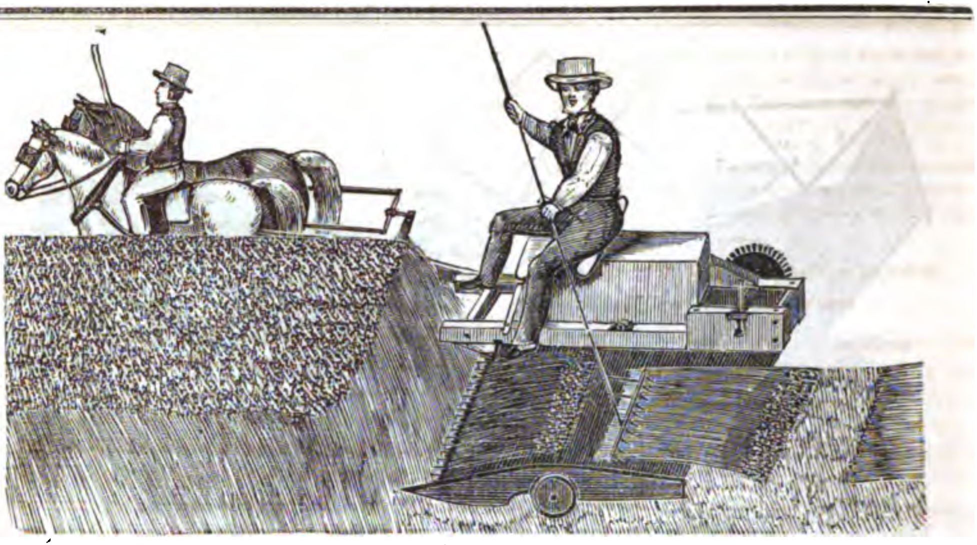
I may add that this reaper has recently been patented in England, with a view to its immediate introduction there,—one of them having been prepared for exhibition at the great World's Fair, in May next, and for which the gold medal of the "American Institute" has been awarded. C. H. McCormick. *Chicago, Ill., Nov. 12th*, 1850.

Letter in reference to different Reapers.

Eds. Cultivator—Four years ago, the first harvesting machine was brought into this county, and so fast did such machines come into favor with the farmers, that for the two seasons past nearly all the grain has been cut by them. Mr. McCormick, when introducing his Virginia reaper, warranted it to cut one and a half acres per hour, and save one bushel per acre more than by the ordinary mode of harvesting, or it might be returned. No machine has ever been returned to my knowledge, or any dissatisfaction expressed on account of a failure to fulfil the warrant.

This machine, as well as others, has been greatly improved, while a host of new ones are brought into the harvest-field every year. In reply to the inquiries of your London correspondent, I would say these machines are worked by horses, sometimes two being used, but more generally four. Some of the machines require the horses to go by the side of the standing grain, while the machine works on one side. The cutting apparatus of others is directly in front of the horses. Some drop the grain directly behind, which must be bound before the machine comes round again, while others drop it at one side, and the whole field may be cut before any of it is removed. Some require a man to rake the grain from them; others are constructed for self raking, and one has been brought into the field the past season that does its own binding.

The cost of these machines is from 75 to 125 dollars; the amount which they will cut per day, varies from 12 to more than 20 acres. The price charged per acre for cutting, is from 50 to 62½ cts. From seven to nine men are employed to bind and shock the grain. Women's labor is too scarce and valuable to be employed in tying grain. These machines cut all the grain, and if the raker is careful none is scattered, and if the binders carry a rake and use it, none need be lost. Fields harvested by these machines present a beautiful appearance. The stubble is uniform in height, while no prostrate, scattering straws speak of waste. If the binders have felt at all interested in doing their work well, there is nothing to glean with the sickle, bagging-hook, or rake. Weeds, brush, pitchforks, rakes, if standing



HUSSEY'S REAPER.

in the way, and even horses legs, are all cut smooth alike. Weeds make heavy raking, that is all.

Now as one man can cut from two to five acres per day with a cradle, of the grain that stands upright, and another can rake and bind it, it may be supposed that there is no great difference in the expense per acre, by hiring a machine or cutting by hand; but other considerations render the machine valuable in the estimation of farmers. First, it is supposed that it saves over and above other modes enough to pay for cutting, if not the whole expense for harvesting, and then it cuts lodged and crinkled grain readily, saving much in both labor and grain; and again, it enables us to *cut our grain in* season, which we could not do with the limited amount of help in the country.

There are other machines at work in the harvest-field, differing from those to which your correspondent's inquiries alluded. They take the *heads* of the grain only, dispensing with binding and shocking. This machine is really a labor saving machine, yet, on account of the prejudice in favor of the time-honored custom of binding grain, they are working themselves but slowly into use. Those who have tried them cannot be induced to return to the old method. The grain as it is gathered in and cut by these machines, is thrown into a canvass which carries it one side and deposits it in a wagon-box, made for the purpose, and driven by the side of the machine. From sixteen to twenty acres can be cut and put in rick in a day, by six men and eight horses. The only objection raised against this mode of harvesting, is the danger of the grains damaging in the rick; but the testimony of all who have tried it is in its favor. In a damper climate than this, it might not save well; but here, with our sunny sky and pure air, I think there is no danger. If we had your correspondent's two hundred acres of wheat here on the prairies, we would, in two weeks time, with six men and eight horses, put it all in rick for him, wasting no more than he will with all his men and his women.

We are doing more here than your correspondent or many of your readers may be aware of. Horses will soon do our haymaking as well as harvesting. For three years or more, there has been in use a harvesting machine that has been made to cut timothy and timothy and clover mixed, but not until this year has there been any thing presented to the public that would cut our prairie grasses, some of which are the most difficult of all to cut by machinery. At the late fair of the Buel Institute held at Granville, Putnam county, two machines of different patterns were exhibited, and tested in cutting prairie grass, to the entire satisfaction of all. One of the machines clogged in some of the worst places, but the other cut its way through every thing as close or closer to the ground than a scythe, leaving the grass in a much better condition to dry. I learn that one of these last mentioned machines was used some few miles east of us, working to the entire satisfaction of its owner and all others who witnessed its operation. Both of these machines are also designed for harvesters, and both are manufactured at Ottawa, in this county. The price of the latter I understand is 75 dollars. L. L. BULLOCK. *La Salle County, Illinois, November*, 1850.

Letter in reference to Hussey's Reaper.

EDITORS CULTIVATOR—In answer to inquiry about reaping machines, page 379 of the Cultivator for 1850, I would state that I have used one of Hussey's for two years. Our wheat crop was not heavy in straw in 1849, and we cut with two horses, changing twice a day, on an average, rather over fourteen acres. This season the straw was very heavy, and I could not get over from ten to eleven acres cut per day, even using three horses at a time, and changing horses twice or oftener per day. The machine ought never to be worked with two horses, except the grain is quite light. It requires about seven men to bind after the reaper, one man to drive the team, and another to push off the sheaves from the platform of the reaper. In this way, I think wheat can be taken up as clean as in any way I am acquainted with; even the best reapers cannot do it so clean. It leaves a stubble of about seven and a-half inches in length; it can be cut lower, but then it is harder on the team. Much "May-weed" might impede the cutting somewhat, but docks and thistles would not hinder. Any grain requires to be fully ripe before it is cut with the reapers, as it is impossible for a man to push off the cut grain from the platform when cut in a raw state. It is, on the whole a wonderful labor-saving machine, as even in heavy grain, nine men may cut, bind and shock, ten acres per day. The reaper does not work well when the grain is wet, but no farmer ought to cut his grain in that state. When grain is all laid one way, the machine will cut it beautifully by the team working in a direction opposite to that the grain lies; but if it is twisted in different directions, the machine will not work.

Hussey's reaper costs $100 at Auburn. J. Johnston. *Near Geneva, Nov.* 25, 1850.

Notes of a Tour in Central New-York.

Analytical Laboratory, Yale College,
New-Haven, Conn., Dec. 5, 1850.

Messrs. Editors—The last days of 1850 have come, and find me still lingering in Wayne county; a district which constantly suggests fresh topics of a most interesting character. I hope however, to tear myself away before we have advanced far into 1851. At the conclusion of my last letter, I had just returned from an excursion with Mr. Pardee, as far as the shores of Lake Ontario. A day or two afterward, I drove, with Mr. Hyde of Palmyra, a few miles south into Ontario county. One of the most interesting farms that we visited, was that of Mr. Rush. He owns a large number of acres, and keeps a numerous stock, feeding out all of his corn, barley, oats, &c. on the premises, and only selling off the wheat. In this way he makes much manure, and keeps the land in fair condition.

The wheat crop of the present year had been so good in all this region, that very many of the farmers were carrying their corn off the land preparatory to sowing wheat. Mr. Rush, at the time of my visit, was clearing a corn-field by placing the stacks together in rows, and had commenced harrowing in the wheat without any plowing. This was certainly a labor-saving method, but I doubt if it will afford very heavy wheat as a return. By way of illustrating the short-sighted rapacity of some farmers in this section, I mention a case of which I was told by Mr. Rush. He named a person who had shortly before cut a heavy second crop of clover from one of his fields, and had immediately gone on to plow it for wheat. It is fair to say that even on this rich land, such farming is considered *rather exhausting*. I saw in this neighborhood, an instance of the evil which results from making drains of large loose stone, imperfectly covered on the top, as such must always inevitably be. A man was at work upon a drain of this description, into which the water had broken from above, washing in so much earth that it had completely choked, and required taking up for nearly its whole length. If this drain had been covered with small stones above the large ones, such a catastrophe could scarcely by any possibility have occurred.

From Mr. Rush's we drove through the town of Farmington to Macedon, where we passed a few moments with the well known horticulturist and author, Mr. J. J. Thomas, walking through parts of his extensive nurseries, and looking at some of his fine fruit. The nursery of Mr. Smith was in this neighborhood, but our limited time forbade the call we had contemplated.

Mr. Hyde very modestly waived my visit to his own farm in favor of some others; but from what I saw and heard, he also must be included among the *improving* farmers of this section. I noticed as we passed along the road, a superb field of corn belonging to him, and quite a number of acres just brought in from swamp and wood.

The fair at Palmyra, was excellent in many respects, and the show of stock acknowledged by all to be very good. I saw some fine Devons, and some showy horses. Sampson, a Clydesdale stallion, I should judge, attracted much attention. After the list of orchards and nurseries that I have mentioned, it may easily be conceived that the show of fruit was uncommonly good.

From Palmyra, I went via Canandaigua, Geneva and Seneca Lake, to Ovid, where the fair of the Seneca county Society, was held this year. This fair was more numerously attended than any of those at which I was present. I arrived too late for the show of stock. The horses were said to have been good, but the cattle few in number, and rather inferior in quality. The exhibition of fruit did not appear so well as some that I had previously seen, perhaps because there was no place properly arranged for its reception and protection. On reaching Ovid, I found Mr. Delafield, the President of the Society, at his post, as a matter of course, and exerting every energy to keep up the interest of the occasion. The name of John Delafield, will hereafter be associated with all the best interests, and all the progressive agricultural movements of Seneca county. If we could have but one man of such enterprise, perseverance, and sagacity, in each county of our Union, the revolution that our country would witness within the next few years would be quite surprising; the cause of improvement could not then languish as it too often has alone.

I saw the plowing at Ovid, and thought it generally very good; the Michigan subsoil plow was at work, for the purpose of showing its operation. This seems to me a truly valuable implement; the turf and grass are turned by it very completely, and the surface is lfet in a mould like that of a garden; at the same time it possesses the great additional advantage of plowing deeply. In a stony subsoil, or one that was very much compacted and indurated, this plow probably would not work so well as in the mellow soils where I saw it tried. A real subsoil plow of the old construction, would be the only thing for the more obdurate soils.

I may notice here as an instance of the interest which is felt by the people of this county, in any thing relating to improvement in agriculture, that on repairing to the court-house before the hour appointed for the address, I found the room already densely packed, and a large number waiting outside utterly unable to obtain admission. It soon became evident that we must adjourn to the open air, and the address was delivered from a temporary stage erected upon the court-house steps, to a large audience, that testified by constant attention, the desire of its members to gain knowledge connected with their profession.

On the day after the fair, under the guidance of Mr. **Delafield**, I traversed a very considerable portion of Seneca county. We first drove south from Ovid to Lodi, passing on our way thither, through numerous handsome farms, seemingly under good cultivation. Having a long circuit to make, and being obliged to reach the north end of the county by evening, we were compelled to pass many interesting farms and good farmers, without making any stop. The houses on the main road through Lodi, reminded one of New England, in their large size, their neat comfortable appearance, and the little evidences of taste as well as of thrift which appeared about many of them. From the high grounds of Lodi, may be seen both the Cayuga and Seneca lakes for a large portion of their length. The roads were all laid off at right angles at distances of a mile, and running straight across from one lake to the other.

In descending toward Seneca lake, we experienced some genuine farmer-like hospitality from Mr. **Wyckoff** of Lodi Mills, and afterwards under his guidance visited the Lodi falls. These are in a deep cleft of the Moscow Shale, worn out probably by the action of water to a far greater than its original depth. The stream is insignificant, and though it falls in one place 150 feet, makes in summer but little show. The amphitheatre of cliffs however, which it has scooped out below, is some 200 feet in perpendicular height, and is magnificent beyond description; it will richly repay a visit from all who can appreciate the sublimity of such a scene. The falls can be reached in ten minutes walk from Lodi landing, where a steamer calls four or five times in each day. At one place in the face of these cliffs, native alum appears upon the surface in considerable quantities; it can be detached in pieces of medium size, and the rock from which it exudes may at some time be valuable for the purpose of alum making.

On emerging from the foot of this defile, we found ourselves on the shore of Seneca lake, and among the remains of an Indian orchard. Apple and peach trees were here in bearing, which escaped the destruction made by Sullivan's expedition against the Six Nations. Some of the apples that we picked up under these trees, were quite handsome, and showed that the Indians must have selected their fruit with some care.

From this point we commenced our journey northward again, passing through Ovid, Romulus, and Fayette, arriving just after dark at Mr. Delafield's place, near Geneva. Much of the soil in Fayette is quite heavy for this section of the county, and decidedly wet; all that is necessary to bring it at once into a highly productive state, is the tile drain. Mr. Delafield's farm has already been described by others on various occasions, and I will therefore only say that it bears evidence of skilful management in every part. The farms of Mr. John Johnson, and of Mr. Foster, are also excellent schools for the young farmer; the latter has taken the state premium.

It is due to Seneca county to say, that I noticed fewer weeds in its fields, and along its roadsides, than in any other district that I visited; this may to some seem a trifling sign, but to me it signifies a wide-spread spirit of enterprise and improvement. The county will be fully described, its various peculiarities elucidated, and its advantages made known when the survey now in progress by Mr. Delafield for the State Society, shall be published. I will not anticipate any of its information, but will merely say that it shows a general state of agriculture that is highly creditable at present, and that is rapidly advancing toward the best standards. Yours truly, **John P. Norton.**

Profits of Fowls.

E. M. Bradley furnishes the East Bloomfield Farmers' Club with a statement in regard to the profits of eighty fowls for ninety days. In the month of February 1850, he built a poultry-house, 31 feet long and 13 feet wide, attached to a shed on one side and to a barn at one end. The roof was of boards, battened, and it had two windows for the admission of light. On the first of March he put into it eighty fowls of the common kind, mostly one year old. They cost 18¾ cents each. They were fed with corn and oats, and fresh meat, boiled. Gravel, lime, and clean water were furnished constantly, and they were let out of the yard and allowed to roam every afternoon. His account of the expenditures and receipts is as follows:

Lumber and nails for building	$10 90
Labor of building 4½ days, at $1	4 50
Eighty fowls at 18¾ cents each	15 00
Ten bushels corn at 50 cents	5 00
Nine bushels oats at 33⅓ cents	3 00
Making the whole expense	$38 40

In ninety days they furnished 385 dozen and ten eggs, which at ten cents per dozen, were worth $38,58—being a trifle more than the cost of building the house, the fowls and the grain consumed.

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Crops in Nova Scotia.—Rev. H. L. **Owen**, Aylesford Rectory, writes that the crops of last year were more than an average. "Wheat has succeeded well wherever sown, which has not been the case for four years. Potatoes abundant, but I fear are rotting in the cellar. Hay, a good crop, as also Rye and Barley. Turnep culture is becoming extensive, and peat soil is coming into free use."

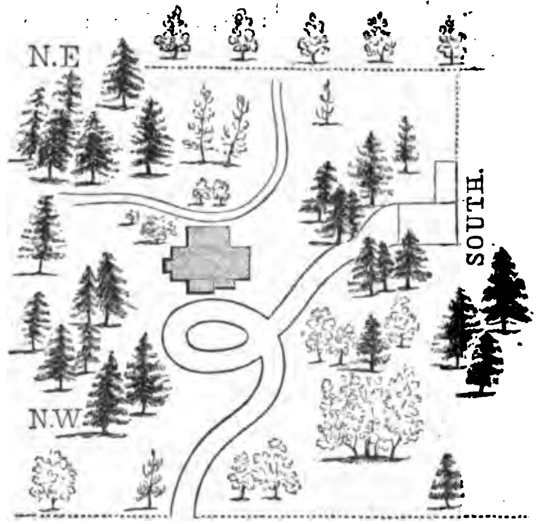
The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Protection from Winter Winds.

THOSE who do not appreciate the higher reasons for ornamental planting, will doubtless admit its utility, if its pecuniary economy is pointed out. A single item,—the saving of fuel,—is a sufficient reason for the protection of dwellings against the range of cold winds.

Every woodman is familiar with the contrast in apparent temperature between the center of a dense forest, and the face of an open field, during the depth of winter. In the northern states, cultivated land is often frozen to the depth of a foot; woodland soil often not half that depth under similar circumstances. Even some green-house plants will survive the coldest winters if planted under the thick boughs of a forest.



The same kind of protection may be very easily secured by the occupants of every country dwelling, by plantings of evergreens, which will serve wonderfully to mitigate the evils of our long and rigorous winters, which are so generally felt. To come at once to an estimate by bank-note consideration,—we are satisfied by considerable observation, as well as actual experience, that on many bleak situations, at least one half the fuel consumed might be saved by planting twenty-five to fifty good evergreen trees, across the sweep of the prevailing winds. It is a matter of some importance to one who values coin, whether he pays twenty-five or fifty dollars a year for cord-wood; and whether by saving twenty-five dollars a year, he may save the value of a small farm in a life-time.

And if at the same time that this positive tangible profit is secured, a tasteful and attractive appearance is given to a home,—an influence of very great importance in the moral education of a rising family,—the matter is most certainly worthy of attention. To explain more distinctly how a dwelling may be thus protected by tasteful planting, we give the above imperfect plan; more particularly as writers on ornamental planting have apparently lost sight of this important end. The prevailing winds are supposed to be from the south, north-west, and north-east. It will be observed in the plan, that the plantings of evergreen trees predominate at three points, while in other directions the view is left more open. At the same time, art is concealed, and artificial stiffness avoided. The number of trees for these screens may be tripled if necessary.

There are few parts of the country where native evergreens of some kind may not be procured within a days journey. They may be conveyed on sleds with great ease and safety while sleiging lasts, as the large balls or cakes of earth, which all evergreens must carry on their roots for successful removal, are easily loaded on sleds, and the motion is not sufficient to jar off the soil. We have never succeeded better with the white pine and other trees, than by cutting out a circle of unfrozen earth round each tree, under the snow, enough to preserve the tree upright, without staking, and after drawing them home, to leave them standing unplanted till spring. They varied from seven to twelve feet high when removed.

One of the most beautiful and tasteful evergreens, when grown in open ground, is the hemlock. Intermingled with white pine, balsam fir, white spruce, red and white cedar, and other native sorts, occasionally interspersed with such exotics as the Norway, silver fir, &c., in connexion with deciduous trees properly arranged, a plantation presents an exceedingly pleasing and varied appearance.

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The Seventeen Year Locust.

A copy of the recent Transactions of the Pennsylvania Horticultural Society (received through the kindness of Dr. Brinckle,) contains a paper from Margaretta Morris, and another from Prof. Goadby, on the injury sustained by the pear tree from the Cicada septendecim or seventeen year locust. It appears that these insects during their long residence below ground in the larval and pupa state, attach themselves to the roots of the tree and injure it by abstracting its sap. A special committee, under the direction of M. Morris, examined the roots of some pear and apple trees, and found great numbers of these insects passing from the larval to the pupa state. They were enclosed in separate earthern cells opening only against a portion of the root. They were then in the sixteenth year of their subterranean life. Trees thus infested by them presented usually a sickly appearance. From the roots of one pear tree nearly five hundred of these insect larvæ were taken, in time to save the life of the tree. As it is well known that these larvæ came from the last brood of perfect insects, we are not to expect that trees planted since the last locust year will be troubled by these root-suckers. We are informed that by cutting down the tree the insects will perish for want of food. The only fact which contravenes this position, is furnished by the statements on record, of swarms of locusts rising from the ground in open fields where oak trees, their favorite places of resort, had been cut down some years previously.

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Transplanting Shrubs.

In transplanting shrubs as well as very small trees, a common error is too place them too deep in the earth. This has arisen from the fact, that by receiving more moisture, they often succeed best the first summer, at the expense however of their subsequent healthy growth. It is much better to plant shallow, imparting the necessary moisture by means of a deep, mellow soil beneath, and by mulching above. The material for the latter may be short litter, manure, moss, spent tan, inverted turf or leaves and leaf mould. A raised surface consisting of these materials, to the height of six inches, will occasion no injury whatever for a year or two, and admirably equalize the moisture of the soil. Manure used in this way, operates beneficially not only in preserving the moisture, but in increasing the fertility by the liquid manure carried down in solution by rains, especially if applied in autumn or winter. The contrast between the hard and baked surface too often witnessed when the ground is left bare, and the moist and softened earth beneath a coat of manure or litter, can be only sufficiently understood by actual experiment. Its advantages were strikingly exemplified a year or two since, in planting out a bed of strawberries in the middle of an excessively dry summer. The roots, after being fixed by water in transplanting, were protected from drouth by a coat of manure three inches thick, and although they were watered but once, not a plant perished.

Staking may be in some instances necessary to prevent swaying by the wind, or a one-sided growth where there are imperfect or unequal roots. But usually, if the shrub is furnished with good roots, and if care is taken while the earth is shovelled in, to spread them all out like the arms of an umbrella, they will serve to brace it evenly, and prevent a one-sided growth. Fixing by water, as it is termed, is often sufficient alone, to preclude the necessity of staking. It is most conveniently done by three persons, one spreading out the roots with his fingers, a second sifting in the earth, while the third settles it by pouring water from the rose of a watering-pot. Although soft at first, the soil in a few hours dries and hardens sufficiently to hold firmly the newly set roots. An additional stiffening, if needed, may be given by encircling the stem with a small temporary mound of earth.

In transplanting roses and some other small shrubs, sufficient pruning of the top is rarely given. Climbing roses and those generally which throw up rapid and vigorous shoots will make a better growth by autumn, by cutting down to a few good buds when set out, than by leaving a long portion of stem and branches, which indeed not unfrequently draw so hard upon the roots as to cause the death of the plant. On the other hand we have seen shrubs transplanted in wet weather with entire success, after having grown six inches, by taking up full roots, and drenching the soil well with water, at the same time very freely shortening back the shoots and lopping most of the leaves.

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Answers to Inquiries.

Rhubarb.—"Which is the best sort, and which the second and third?" B. W. S.

Of those more commonly known, the best appears to be Downing's Colossal; next, the Victoria; and thirdly the old Giant rhubarb.

Cutting Grafts.—"Are scions just as good cut in winter when frozen?" B. W. S.

Equally so; and they may be frozen and thawed twenty times before spring without injury, provided the proper degree of moisture is preserved.

Seckel Pear on Apple.—"Does the Seckel pear succeed on the apple, and is the fruit larger in size as I have seen stated?" N. W.

It is usually difficult to succeed with the grafts or buds during the early stages of their growth, most of them commonly failing the first year or two; but those which become established grow better, and often last many years. A dwarf tree four feet high, branching from the ground, and six years from the graft, bore about one peck of beautiful fruit the past season, larger in size than common, more pyriform in shape, and not perceptibly inferior in quality.

Root-grafting Apple trees.—"In planting a small nursery. will small pieces of the roots of large apple trees produce trees large enough for market sooner than the seed, and how long ought the pieces to be? Are triple buds as well as single used in budding?" J. A. D., Ravenna, O.

Cutting up the roots of large trees to graft upon has never been much practiced, and is not so certain of producing uniformly fine and thrifty trees, as the vigorous and evenly formed roots of one or two-year seedlings, neither is it so cheap nor economical of labor. But in the absence of seedlings, it may be performed on a limited scale. Younger and thriftier trees would furnish better pieces of roots than older and feebler ones. The length should be about six inches, and when set out, the soil should cover all but the tip of the graft.

Triple buds, when the center is a leaf bud, succeed well in propagating. This is nearly always the case with triple peach buds, and when cut from old or slowly growing trees, they are more likely to withstand the winter than any other. The best buds however are those strong and well formed on the large and vigorous shoots of young trees.

We cannot answer the inquiry about the gnawing of rabits, having had no experience with them.

Training Dwarf Pears.—"Is it proper where a dwarf pear seems inclined to run up too high, to cut the top off?" S. P. M.

Inquiries of this kind are often made, and we therefore subjoin a few figures by way of illustrating the mode of training dwarf pears. They are most usually trained in the form of a pyramid, as shown by figure 1; but some prefer them in the form of dwarf standards, as indicated by fig. 2.

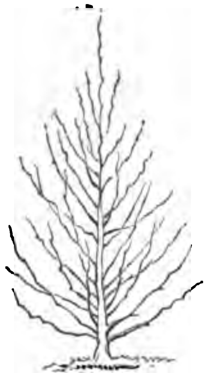
Fig. 1.

When a pyramid is intended, a mode of pruning must be adopted quite similar in principle to that applied to the trimming of young hedges; that is, to induce a broad and sufficiently thick growth at the bottom by successively cutting back. For example, if we have a young tree of one seasons' growth from the bud, Fig. 3, about two thirds of the top should be cut off as shown by the dotted line, leaving a stump with eight to twelve buds, as in Fig. 4. During the second year, these buds throw out shoots, and form the tree represented by Fig. 5; and if, during the growth of these shoots, the upper one or leader does not keep decidedly ahead of the others, the tips of the side shoots, are to be nipped by midsummer. The same operation is repeated the second year, but at a greater height, and so on till the pyramid in Fig. 1, is formed. This is merely an outline of the work; there are several more minute details observed by skilful pruners, which may be pointed out on a future occasion.

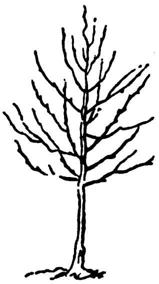
Fig. 2.

If the young tree is left untouched, it will form a head similar to that shown by Fig. 6, resulting in the dwarf standard, Fig. 2; requiring however, in most cases, a slight shortening back, to preserve a good form.

Pyramidal training need not be confined to pears on quince; some of the finest specimens we ever saw were pyramids on pear stocks, this mode of management keeping them within limited bounds, and contributing towards their productiveness.

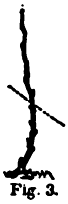
Fig. 3.

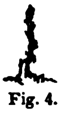
Fig. 4.

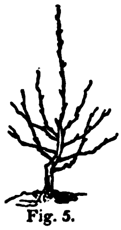
Fig. 5.

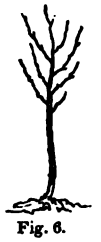
Fig. 6.

It may be well to add that there exists a serious difficulty in the way of the general introduction of dwarf pears. They require richer soil and higher culture than other trees, at the same time that more than nine-tenths of all trees not dwarfs generally planted by our land owners suffer greatly by neglected and deficient culture. Still more so then, would these.

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Bitter and useless experience is too little for the mind, but too much for the heart.

The Spanish Chestnut.

The heavy loam of this neighborhood is unsuitable for the chestnut; and I believe the nearest tree that grows wild, is seven or eight miles from this place. When transplanted into common soil, the leaves assume a sickly, whitish cast. I have a Spanish(?) chestnut however, in my garden, which grows in a border of *selected earth* about three feet wide and fifteen inches deep; and it would be very productive, if the *anthers* were not so far diseased as to yield little or no *pollen*. Previous to the present season, it had not produced to my knowledge more than four or five chestnuts in ten years. In the summer of 1849, I ascertained the cause of its barrenness, and thought of applying pollen from the wild kind; but it was not convenient to do so then, and the thing was omitted. In the last summer however, a branch was accidently brought home by one of my family; and though I knew it not till next day when it was withered, I shook it over the lower limbs, and the result has been several dozens of fine chestnuts.

I intend to plant a wild tree in the same border.

The theory of this process has been known since the days of Linnæus; but persons who are botanists have been surprised and amused at the result. D. T. *Greatfield, near Aurora, N. Y.*, 11 *mo.* 1, 1850.

◆

Experiment with a Plum tree—Curculio repelled?

William Hooper of Kelloggsville, Cayuga Co., has a plum tree which had regularly dropped its fruit prematurely until the present season, when it bore a fine crop. Its productiveness is ascribed to the following experiment:—Round the tree, at the distance of a foot or more, a small trench was cut last spring, and filled with several quarts of salt. The directions (which were found in a newspaper) mentioned a peck to each tree; but apprehensive that so much might prove injurious, they lessened the quantity. The tree appears quite healthy. D. T. 11 *mo.* 4, 1850.

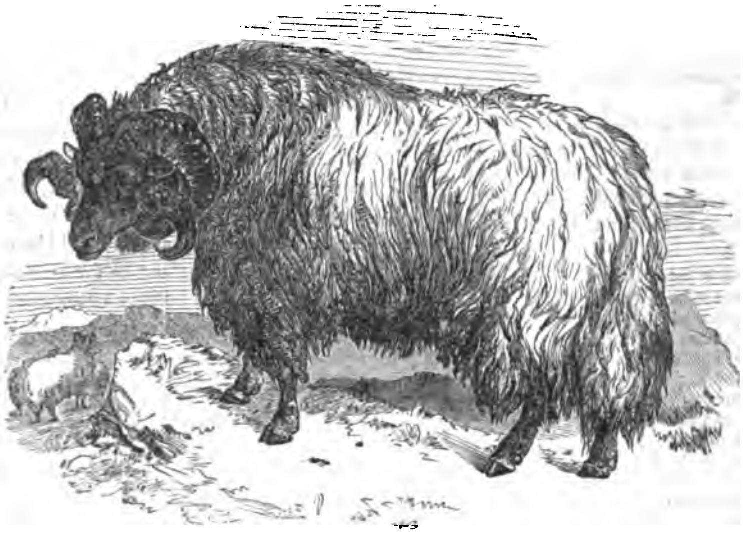
◆

Sharp Frosts in Valleys.

Lawrence Young, Chairman of the State Fruit Committee for Kentucky to the Pomological Congress, states the following fact in illustration of the advantages of planting tender fruit trees on elevated ground instead of in valleys. Lieut. Maury placed a thermometer on a high portion of his orchard grounds, and another at the bottom, thirty-five feet lower. At 1 A. M. he found the thermometer at the bottom at 28°, and being surprised to see that on the hill at 33°, changed their position, but was soon convinced that there was a difference in temperature between the two points of *five degrees*.

◆

English and Scotch Acres.—The English acre contains 4,840 square yards—the Scotch, 6,150. The Scotch acre, therefore, is rather more than one-fourth the largest.



BLACK-FACED SCOTCH SHEEP.

The Farmer's Note-Book.

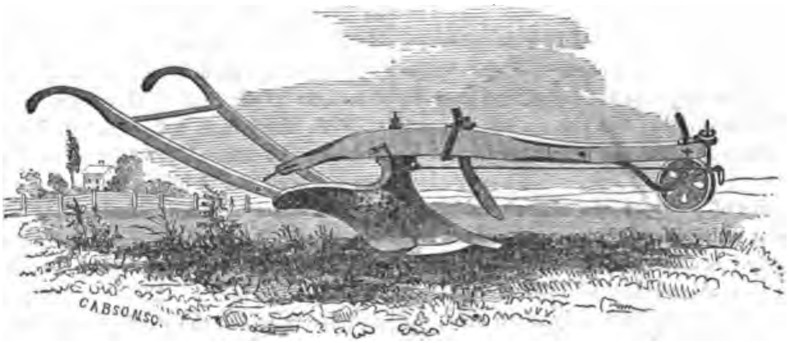
Black-Faced Sheep of Scotland.

In the pastoral districts of the Highlands of Scotland, the Black-Faced breed of sheep has been kept from time immemorial. The Cheviots have latterly been introduced to some extent, but it is still held, that "in the bleakest and wildest pastures of the mountain ranges, no sheep but the Black-Faced can exist." The breed is uncommonly hardy, and the mutton is remarkable for its fineness and delicacy of flavor. Good wethers average sixteen pounds per quarter. The wool is chiefly used for carpets and the coarser kinds of worsteds. It weighs about four pounds to the fleece. It is thought by some who have seen these sheep in their native country, that they might be advantageously introduced in some of our mountainous districts—as the Allegany range, &c., where they would subsist chiefly on the natural vegetation.

In our last volume, pages 48, 49, we gave some remarks, together with a cut, in regard to the management of sheep in the Highlands, and suggested that some of the practices there pursued might be properly adopted in this country. Our readers may be interested in a few observations in reference to the mode of living, and the character of the Scottish shepherds. Martin remarks—

"The plan on which these men are engaged is admirable, and binds them to their employer's interest, or rather makes their mutual interests the same. For example, if the shepherd be a married man he is allowed a cottage, generally consisting of two apartments, with a little garden or kail-yard and a potato patch. He has also grazing ground for one or even two cows, and the liberty of pasturing on his employer's land from ten to fifty sheep, sometimes more, during summer and winter, with their lambs, to a certain time. In addition to these privileges, he has a certain allowance of oats, barley, and peas, for the sustenance of himself and family. In this lone hut upon the mountain's side, dwells the shepherd, his family, and his dog. During the summer all is pleasant. True, his life is monotonous, but the Scottish shepherd, peasant though he be, is not uneducated, and his own mind affords him resources against *ennui*. Men celebrated in the paths of literature have been for years the tenants of such a cottage, and keepers of another's flock. But winter comes on with its storms and tempests, and then the utmost activity, vigilance and experience of the shepherd are called into full exercise. He is ever anxious, ever on the watch for changes of weather, and his family, nay his faithful dog, participate in his solicitude."

"I know of no scene," says the Shepherd-poet of Ettrick, "so impressive as that of a Shepherd's family, sequestered in a lone glen during the time of a winter storm. They are left to the protection of Heaven alone, and they know and feel it. Before retiring to rest, the shepherd uniformly goes out to examine the state of the weather, and make his report to the little dependant group within. Nothing is to be seen but the conflict of the elements, nor heard but the raving of the storm. Then they all kneel around him while he recommends them to the protection of Heaven; and though their little hymn of praise can scarcely be heard even by themselves, and mixes with the roar of the tempest, they never fail to rise from their devotions with their spirits cheered and their confidence renewed. Often have I been a sharer in such scenes, and never in my youngest years, without having my heart deeply impressed.



CENTER DRAFT PLOW, NO. 40.

We lived as it were, inmates of the cloud and the storm, but we stood in relationship to Him who directed and governed them."

Center-Draft Plow, No. 40.

THIS is a new pattern, brought out by Messrs. PROUTY and MEARS, Boston. It is constructed with special reference to deep and narrow furrows, and may be called a stiff-soil plow. We had the opportunity of seeing it tried, in November last, on the farm of E. P. PRENTICE, Esq., near this city, where its operation was in the highest degree satisfactory. It was gauged to work ten inches wide and seven inches deep, and cut the furrows according to these dimensions, with remarkable exactness, running at the same time with great steadiness, and requiring comparatively little aid from the plowman. It leaves the soil in an open and friable condition, and effectually buries the vegetation.

First Wheat raised in Western New-York.

EDS. CULTIVATOR—In the commencement of the summer of the year 1788, about twenty men, some of whom were accompanied by their families, met at Schenectady, in New-York, and embarked on batteaux for the western part of the State. They were followers of Jemima Wilkinson, who styled herself the "Universal Friend," and were going to the "promised land" which three of their agents had discovered the preceding year on the banks of a beautiful lake, now called the Seneca. They had horses and wagons to use when water carriage failed. They found but two log houses at Utica, one at Whitestown or Fort Stanwix. A pioneer by the name of Jennings had just moved into a log house, which the Indians had assisted in raising, near where the Franklin house now stands, in Geneva. This was the only house in Geneva, the only one they had found since leaving Fort Stanwix. With their batteaux, they proceeded up the lake to where the Ovid Landing now is. Here they staid about a week, searching after a stream on which to erect a mill. Not being able to find one, they crossed to the west shore of the lake, about a mile south of West Dresden—were pleased with the mill seats on the outlet of Crooked Lake, and with the country. It was now the month of August, and they began the "Settlement" with vigor, agreeing to sow the first wheat in common. They cleared about 40 or 50 acres, judging that there would be two acres for each man. It was about the first of November before the wheat was sown—the quantity being at the rate of about one bushel per acre. No plow was used in preparing the ground—harrows, with wooden teeth, mellowed the newly-cleared soil, and covered the seed. It was harvested the succeeding July, and yielded about fifteen bushels per acre.

It may be interesting to add, that the first and second season, some of the settlers cut wild grass on the alluvial deposit at the head of the lake, where Jefferson now is, and conveyed it down the lake on batteaux, 25 miles, to the "Settlement." This, with what the cattle obtained from shrubs and trees, enabled them to live through the winter. I should have stated that the ground first sown, is now under cultivation, and often produces 30 to 40 bushels of wheat per acre. It belongs to Joseph Ketchum and Robert Norman. S. B. BUCKLEY.
West Dresden, Yates Co., N. Y., Nov. 11, 1850.

"Small Potatoes" for Planting.

MESSRS. EDITORS—In the November number of the Cultivator, is an article on this subject, stating that superior crops have been raised from the use of small potatoes for seed, and asking further information.

Formerly, I believed in the common opinion, that large potatoes must be used for seed, to insure a good crop; but in 1845, owing to the failure of the previous crop, I was obliged to use small ones, none larger than a hen's egg, and the result was truly surprising. The yield was about 100 bushels from half an acre of unmanured ground, and they were almost uniformly of fine size. Many hills had none that were so small as the largest I planted.

But old opinions require a long time to root them out; and ever since, my potato field has been an experimental one, to determine this point. In no case have I been able to decide that large potatoes were better than small ones for planting. This year I resolved that the experiment should be a decisive one, and therefore separated my potatoes, about half a dozen varieties, planting first the large, and then the small ones of each variety; but the rot has so nearly destroyed the crop, that the result could not be observed.

Some varieties of potatoes are almost uniformly small, with any cultivation they may receive, and they also closely resemble some of the best varieties. Now if the farmer allows any of inferior kinds to mix with good ones, and plants only small ones, the inferior varieties will obtain the superiority, and the crop will deteriorate.

A large proportion of the small potatoes which are produced, are either the result of too much seed being used, or cultivating the crop after the first set of tubers have formed, so that another set starts out of small size.

The opinion, therefore, which I have formed, is, that small potatoes of a good variety, are at least equally good with the large ones for seed. T. S. GOLD. *Cream Hill, Ct., Nov.* 4, 1850.

Wool and "Gum."

EDS. CULTIVATOR—I have read your remarks upon the Addison county sheep, published in the November number of the Cultivator. To your inquiry as to the object of producing so large a quantity of that gummy matter, you were, you say, answered that it was considered "profitable so long as the manufacturers or their agents would pay for it at the same price per pound as for wool." This answer somewhat surprised you. I formerly believed that *wool* was what a manufacturer wished to purchase under the denomination of wool, and I supposed that if their business required the use of oil, or gum, or grease, they would prefer purchasing those articles separately, as it is somewhat difficult to ascertain the exact proportion that the wool bears to the grease and gum.

I have carefully perused an article published in the *Vermont Mercury*, written by J. M. Colburn, Esq., of Springfield, Vt. He is a large wool-grower, and has for many years been a large purchaser of wool for the eastern manufacturers. He speaks of a noted buck which produced annually a fleece weighing from eleven to twelve and a half pounds. He purchased the clip of wool which belonged to this remarkable buck. The manufacturer directed his stapler to ascertain the quantity of wool that fleece contained. The fleece, before cleansing, weighed eleven and a half pounds, and there proved to be precisely *four pounds* of wool, harsh and ordinary in quality, though in its first state it appeared rather fine. He gives also the relative loss of three other lots of wool. The first lot 27 per cent, the second 35 per cent, and the third 41 per cent, by cleansing. I examined two lots of wool purchased in this town at 40 cts per lb. One lot was in good condition, and fine wool; the other very harsh, and much mixed with gum and grease, and I should judge it would lose near 50 per cent by cleansing.

With these facts before me, and having a knowledge of the general practice of wool-purchasers, I am not sure the Addison county wool growers do not act wisely. I will admit, that with 40 years' experience as a wool grower, I have not been able to learn wherein the value of this great quantity of grease and gum lies. This is an important subject, and one in which the wool-grower must feel a deep interest. I hope, therefore, you will obtain, if possible, the services of Professor Norton, to make an examination and analysis of this matter. He possesses a remarkable talent of presenting a subject in such a way as to appear clear to any mind of common capacity, and if he can, with his superior knowledge of chemistry, show the wool-grower wherein consists the great value of this gum and grease in wool, he will add as much to the interest of sheep husbandry, as he has already done to other branches of agriculture. J. S. P. *Vermont, Nov.*, 1850.

Devon Breed of Cattle.

EDS. CULTIVATOR—The first Devon cattle, of pure blood, that I ever saw, were brought into Litchfield county, Connecticut, by Lemuel Hurlbut, Esq., about 30 years ago. Their color was a pure mahogany-red, free from white, except the brush of the tail. They had short heads, broad across the eye, with long, slim horns, standing high upon the head. I was very much pleased with them, and commenced crossing from them, first with the Heaton breed of cattle, and afterwards with the Durham, introduced by the late Henry Watson, of East Windsor, Ct. About seven years ago, I purchased the pure blood bull Matchless, bred by Col. White, of Danbury, Ct., and also a cow and heifer of Mr. Hurlbut. Since that time, I have purchased a number of females from the stock of Col. White, all free from visible marks of impure blood. I have for several years endeavored to carry out the principles of thorough breeding. I do not claim that all my stock are of pure blood, but I have a number that are entirely unmixed Devon. A part of my stock are crossed, as before mentioned. I never saw any white on a pure Devon, except at the end of the tail, till within the last few years.

Some fresh importations have now been made, and it is thought by some, that we should cross those bred in this country with those lately introduced. It is, however, important to breed from animals which show no impurity of blood. Some animals of the late importations, show some points which are different from what I have heretofore regarded as indicating pure blood. I do not say they are not pure, but as they are in some respects different from the Devon stock we have before had. I wish the subject explained. For example, I have seen two large and fine heifers, of a bright red color ; the skin about the eye and bag, not a cream color, as with the first of our Devons. They resembled those of the first stock crossed with the Heaton breed. I have also seen a very large and fine yearling bull, imported the past season. He is well formed, has good limbs, a round neck, long face, narrow across the eyes, thick horns, a white skin, and some white hairs under the belly. He resembles animals I have seen which were a cross of Devon and Durham.

I have been told that the Devons have been bred in England, latterly, chiefly for beef. In this country, we should have three objects in view in breeding stock. The first and most important is the milking quality; second the working quality, and third the fattening quality, as all are designed for beef at last. It is of the greatest importance that we breed our Devon stock with both milking and working qualities. In selecting stock for the dairy, a yellow skin is important; those cows which have a white skin are likely to give thin and poor milk; and it is also important that our male animals should come from good milking families. J. N. BLAKESLEE.
Watertown, Ct.

It will not be denied that there is a difference in the points and markings of some of the Devons lately imported, and those imported thirty years ago; but we do not think it necessary to conclude that this difference has been occasioned by a cross with the short-horns, or any other breed. Breeders have different standards, and this occasions, in a few generations, a corresponding difference in the points of animals of the same original stock. For instance, if two men were to purchase of our correspondent, ten of his Merino sheep, and should continue to breed from the stock without the least admixture—the one endeavoring to produce sheep with long, narrow faces, and the other those of an opposite character; is it unreasonable to believe that after thirty years, there would be a marked difference in the two families thus bred?

The qualities which should be chiefly regarded in stock, depend on the circumstances of the breeder. The relative value of milk, beef and labor, must determine which shall be the primary object.

The stock alluded to by our correspondent as the "Heaton breed," was probably derived from the short-horns imported by ROBERT HEATON of Throgg's Neck, Westchester county, N. Y., in 1792, and which were obtained by him of the celebrated English breeder, GEORGE CULLEY, author of *Observations on Live Stock, &c.* EDS.

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NUMBER OF PLANTS EATEN BY DIFFERENT ANIMALS.—It has been calculated that

The Cow	eats	276	plants, and rejects	218
Goat	do	449	do	126
Sheep	do	387	do	141
Horse	do	262	do	212
Hog	do	72	do	271

National Agricultural Bureau.

WE are much pleased that the establishment of an Agricultural Bureau has been recommended by President FILLMORE in his late message. The report of the Secretary of the Interior, Mr. STUART, also takes up the subject, and urges the formation of the new Department by sound and cogent reasoning. The suggestion in regard to the purchase of the estate of Gen. WASHINGTON, we hope will be seconded by all who cherish the memory of that eminent patriot, by whose far-seeing wisdom, a National Board for the improvement of Agriculture was first recommended. The following remarks of Mr. STUART, we trust will receive the consideration to which they are entitled:

> In surveying the various interests of the country, no one can fail to observe how little has been done by our government to promote the cause of agriculture. It is true, the cultivator of the soil, in common with all other classes of society, enjoys the protection of the laws and the blessings incident to good government But something more seems to be due to a branch of industry which employs more than half our population, and, to a great extent, sustains the other.
>
> The power of the general government over this subject is limited, but this furnishes no good reason why it should not be exercised so far as it does legitimately extend.
>
> The ordinary means adopted to afford protection to the manufacturing and commercial interests are comparatively inoperative in regard to the agricultural. A tariff can do but little, directly, to benefit the farmer or the planter.
>
> The staple productions of the South are peculiar to that climate, and therefore are in no danger of competiton from abroad. Those of the North and West, in consequence of the fertility of the soil and the low prices at which land can be bought, are produced at less cost there than in other countries, and consequently, except under extraordinary contingences, need no protection by imposts on the breadstuffs of foreign nations.
>
> But still much may be done by government, at small cost, to promote the interests of agriculture. The science is yet in its infancy, and great minds are now directed to the study and development of its true principles. Experiments are in progress to ascertain the qualities of different soils; the comparative nutriment of vegetable productions; and the utility and efficiency of various manures in fertilizing and renovating the exhausted lands of the old states.
>
> Encouragement may be afforded to enterprises like these, and facilities furnished for the collection of seeds plants, and vegetables from all parts of the earth, and their distribution throughout the country.
>
> Premiums may be offered for the best practical treatises on the different branches of husbandry, which can be published and sent abroad among the people. By means like these, a spirit of philosophic inquiry may be stimulated, and a great impulse given to the interests of agriculture. Much has already been done in this respect, through the agency of the Patent Office; but the subject is too important to be left in this dependent condition. The last annual report from the department, recommended the establishment of an Agricultural Bureau, to afford to this great branch of American industry the encouragement which it so well deserves. This is no novel suggestion. It had the sanction of Washington, who, in his last annual message, referring to the propriety of creating an Agricultural board, said:—' This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common center the results, everywhere, of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly

has shown that they are very cheap instruments of immense national benefit."

I therefore renew the recommendation of my predecessor for the establishment of a separate bureau, to be entrusted with the duty of promoting the agricultural interests of the country. The vast extent and rapid development of the mineral resources of the country seem to require that adequate provision should also be made by law for the collection and analysis of the various mineral substances which have been, or may be discovered, so that their properties may be understood, and their value correctly appreciated.

The purchase of a farm in the vicinity of the national metropolis, to be tilled and managed under the direction of the bureau, has been suggested as an important auxiliary in illustrating the best modes of culture. If this idea should be favorably received, I would respectfully add that Mount Vernon, whose soil was once tilled by the hands, and is now consecrated by the dust, of the Father of his Country, should properly belong to the nation, and might, with great propriety, become, under its auspices, a model farm to illustrate the progress of that pursuit to which he was so much devoted.

Economy of Manures.

We have been greatly interested in the perusal of a lecture with this title, delivered by Dr. Thos. Anderson before the Highland and Agricultural Society, and published in the *Transactions* of that association. Dr. A. observes that there are many questions in regard to manures which are yet unsettled, and that these questions can only be solved by the mutual exertions of "science and practice." He says:—

> "I hold it to be certain that the two must go together, and that though some of the facts we require may be determined in the laboratory, there are many questions which, though suggested by science, can only be established as facts by experiments in the field, performed with every attention to care and accuracy. I hold, also, that neither of these methods of experiment will in themselves suffice: they must go hand in hand if our results are to be of value; while separately, the chances are that they lead to mere speculations, of which science will supply one set, and practice the other."

In regard to the value of stable, or farm-yard manure, Dr. A.'s views are quite different from those of Dr. Gardner, to which we made some allusion in a late number. Dr. A. observes:—

> "You will readily perceive the necessity for our directing attention to that manure in which the substances which nourish plants may be said to exist naturally; and that, of course, is farm-yard manure—the most important of all; that on which the farmer must always be dependent; and, I think I may also say, that regarding the economical management of which we have the least definite information. I beg it to be understood as my decided opinion, that farm-yard manure must always be the farmer's main stay. I am aware, indeed, that some have thought otherwise; and we have all heard of an eccentric gentlemen, who expressed his opinion that the time would come when the farmer would carry his manure to the field in his waistcoat pocket. No one now-a-days entertains such fancies; but there are people who seem still to expect that some complete substitute will be found for farm-yard manure. I can assure you, however, that any such supposition is entirely extravagant, and is certainly uncountenanced by chemistry. I do not mean to say that chemistry cannot produce a substitute, but what I mean is, that farm-yard manure must always be *much cheaper* than any substitute which could be manufactured; and the reason is to be found in the fact that the constituents of such a manure must be extracted from plants by a series of complex chemical processes, which must necessarily add greatly to their expense.
>
> "I consider, then, that farm-yard manure is the most important of all, as the natural, cheapest, and most abundant source of the more important constituents of our plants; and that for these and other reasons, we can never expect to replace it by any artificial manure capable of performing all its functions, or serving the purposes of cultivation throughout a succession of years. Under these circumstances, the attention of the farmer should be specially directed to obtaining that manure in its best state and preserving it without deterioration."

In regard to the preservation of manure, Dr. A. remarks that much of the valuable portion of manure is lost by exposure to the air and rains. The circulation of air causes the ammonia to become volatile, and the rains wash out the soluble substances. So far as regards *volatility*, the mixing of gypsum, muck, litter, or earth, may obviate the difficulty; but the liability to injury by rains still continues. To protect the manures against both these sources of loss, keeping it under cover would be most effectual. This shelter might be secured either by a cellar under the barn, or the erection of cheap sheds over the manure heaps.

In regard to bones, Dr. A. thinks it a very erroneous notion that their action as manure is wholly owing to their phosphoric acid. He says:—

> "Bones in a fresh state contain a quantity of nitrogen capable of yielding from five to six per cent of ammonia, and there cannot be a doubt that in many instances they act as much by their nitrogenous matters as by their phosphoric acid."

The instances in which burnt bones have produced striking effects, have been comparatively rare, and are confined to soils which were deficient in phosphoric acid merely.

Bones for Manure.

Eds. Cultivator—I wish, in as few words as possible, to give you my experiment in dissolving bones, and their use as a manure.

I was led to make the trial by reading Professor Norton's communications. About the first of May, I bought an old molasses-hogshead, sawed it in two, and put in one half 100 lbs. of broken bones, and 50 lbs. sulphuric acid, adding about two parts water to one part of acid. I intended the bones for my corn-hills, but after turning and stirring, and stirring and turning for about three weeks the bones were about as whole as ever, except what had worn off in stirring. I then abandoned them, as planting was done, and other business required my attention.

After hoeing, having a little more leisure, I made some examination, and came to the conclusion that the acid was poor, or else I had added too much water. I then added 18 lbs. acid, and in three or four days I had a fine tub of paste. I was then at a stand, as was our friend Hutchins, of Vermont, what to do with it, as the season was so far gone, but I made up my mind to put it on my potatoes, which I was then hoeing the second time; and for experiment, I put it on every alternate row—about a large spoonful to a hill.

When I dug the potatoes, I weighed ten hills in a row, for 12 rows, through the most equal part of the field, and now give you the result, as follows:

	Dissolved Bones.	*Nothing.*
First row,	8¼ lbs.	6¾ lbs.
Second row,	7¾	6½
Third row,	8¼	7
Fourth row,	7¾	6¾
Fifth row,	7¾	5¾
Sixth row,	7¼	8¼
	47 lbs.	41 lbs.

Making a difference in favor of the bones, of near 15 per cent. The 100 pounds was used on every alternate row on three-fourths of an acre, making three-eighths of an acre, hills two by three feet apart, which gives 7,260 hills to an acre, or it was put on 2,722 hills. The 60 hills without manure, made 41 lbs, which, allowing 62 lbs. for a bushel, would yield 80 bushels to an acre, and the manured or boned part would give 92 bushels to an acre; an increase of 12 bushels to an acre, which at 50 cents per bushel, (mine are selling quick at that,) would give an increase of $6 per acre.

Allowing 60 lbs. of acid to 100 of bones, which I think would be sufficient, it would require 160 lbs. to an acre, and it may be bought in Boston, New-York or Hartford, for 2½ cents per lb,...... $4 00
Use of carboy,......................... 25
$4 25
leaving $1.75 for tub, freight, trouble, &c.

In this instance, one would be well paid for all trouble in the increased *size* of the potatoes. My children, in their simplicity, remarked that they should suppose that one parcel was selected from the other.

The crop was on a worn-out, sandy plain, without manuring, which will account for the smallness of the crop; but I think the strength of the manure is not all gone yet.

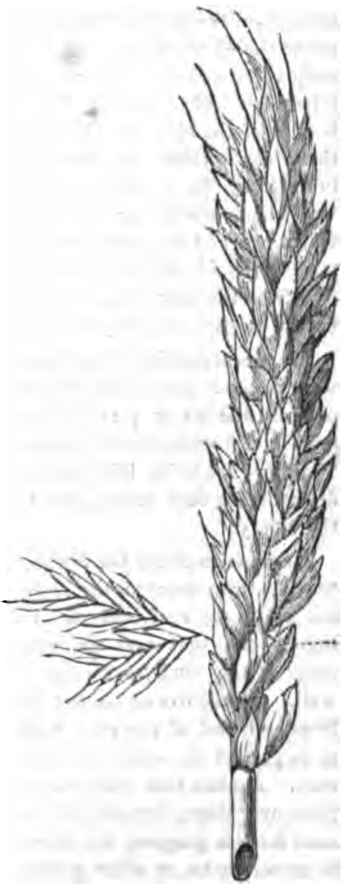
It being dry weather when the paste was made use of, it soon became dry, like old mortar, and much of it remains so now. It has lost its acidity, and is perfectly tasteless. I think if I had mixed dry ashes, or something to absorb the moisture, and converted it into dry powder, so that it could have been more equally distributed, I should have had a much better result, and I think it would be still better to mix it with the earth, when the potatoes were planted. As to Mr. Hutchins' inquiry about the best method of dissolving bones, I think I should make a plank cistern, perhaps one foot deep, and place it below the surface of the ground, and with a stout wooden shoven, with a handle 15 or 20 feet long, a person might stir it about, and turn it over with safety, and when the cistern is not in use, fill it with earth to preserve it from drying. I tried putting some of the paste, (perhpas a tea spoonful to each,) under some cabbage plants, when I was transplanting, and where I put it, I have small heads, and where none was put I have no heads.

I have endeavored, as much as possible, to give a correct statement of my experiment with bones, and am fully convinced that there are bones enough thrown away every year, to increase our potato-crop 15 per cent, to say nothing of the after benefit. W. A. Ela. *West Springfield, Mass.*

Transmutation.

Eds. Cultivator—Many years since, whilst harvesting, I found a head of wheat, and out of the top of that head grew a sprig of chess. I know of many men in this and the adjoining county, who have found heads of wheat and chess, similar to the one here described, growing upon one and the same stalk. I would ask through your paper, how that stalk which produced part wheat and part chess, originated? Did it spring from wheat, or from chess, or from both; or has "an enemy done this?" Luther Redfield. *Clyde, Wayne county, N. Y.*

The above may be taken as a fair sample of scores of communications we have received on the same subject. The accompanying cut, we think, will show our correspondent "how that stalk produced part wheat and part chess." The chess was entangled in the wheat-head. We have seen several cases of this kind, which were brought forward as demonstrative proof that wheat had "turned" to chess; and tho' we could never perceive that the notion of transmutation rested on any better foundation, it seems strange that its advocates should not have discovered that such examples afford them no support at all.



The head of wheat and chess, of which the above is a copy, was sent to the office of the *Genesee Farmer*.—We are informed by that paper, that the man who left it, thought himself entitled to "the prize," for having proved that wheat and chess were both produced by the same stem. By close examination, and bending down the chaff near the dotted line, the end of the chess stem could be plainly perceived, and it could be seen that there was no actual connection of the two heads. All the cases which have been brought to our notice, (except one where the chess was attached artificially,) have been similar to this.

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Poultry-House and Grapery.

In a late visit to Massachusetts, we had the opportunity of examining a poultry-house and grapery combined, which has lately been put up by Col. Jaques, for his son, at the Ten-Hills Farm, near Boston. Three acres of land have been enclosed, and within the enclosure is erected a building, 100 feet long and 22 feet wide, fronting to the south-east This building is divided lengthwise, by a partition,—leaving one division twelve, and the other ten feet wide. The wider apartment is in front, is covered with glass, and is used as a cold grapery; the narrower is used as a shelter for fowls. The area for the building was partly formed by excavation, and the rear wall, which is of stone, stands against a bank ten feet high.

The manner of forming the bed for vines, was as follows: After the ground was properly shaped, a drain, three feet deep, was dug entirely round the outside, so as to turn the cold, underground water away from the roots of the vines. The bed comprises the whole of the area of the building, and a strip additional of the same length along the front, fifteen feet wide,—making 100 by 37 feet. At the bottom of the bed, was placed a layer of brick-bats, three inches thick. It was then raised three feet in thickness by a compost, the materials of which were chiefly stable manure, marsh mud and loam, which had laid in a heap for several months, and to which was added forty loads of ashes and burnt clay from the beds of old brick-kilns, the bones of twenty horses, and fifty bushels of oyster shells.

The vines, mostly of the Black Hamburgh variety, were planted inside the building, but close to the outside, the latter part of May last, and made a growth of from twelve to sixteen feet the same season. The vines are to be laid down in winter, and the fowls during that season, are to have the range of the vinery.

The apartment for the fowls, is well lighted and ventilated by doors at the ends and windows near the roof—the roof over the fowls being two feet higher than that over the grape-vines. Boxes for nests of the fowls, are ranged along the partition wall. A wall five or six feet in height, is to extend from each end of the rear wall of the building, so as to protect the north and west sides of the enclosure. Against this wall, are to be made beds, with glass over them, for early vegetables, and when not used for this purpose, the glass is to afford shelter to geese, ducks, or other poultry.

The ground enclosed, is to remain chiefly in grass. Within the enclosure is both salt and fresh water—a separation being formed by a dike. The water covers an area of 3,700 square feet, in the shape of an egg. The fresh water is derived from springs, which are conducted into the reservoir. The reservoir for salt water is so made that the tide ebbs and flows two feet in it. The water in the fresh-water reservoir, when raised above a certain height, discharges itself into the salt-water reservoir, which is on a little lower level. The experiment of keeping fish, of various kinds, in these reservoirs, is to be made the coming season.

The poultry kept here, has been mostly collected since the building was completed, a large proportion having been reared from the egg the past season. Of course, little can at present be ascertained as to profits. The collection embraces domestic fowls, turkies, Guinea-fowls, pheasants, pigeons, geese and ducks,—the whole numbering about 500—to be increased to such extent as shall appear expedient.

The principal object in regard to fowls, is the production of eggs, and for this purpose a selection of the common fowls of the country was made; but specimens are kept, in addition to these, of the principal distinct varieties. Of geese, we noticed the wild, or Canadian, the large Chinese, or Hong-Kong, (sometimes called African and "mountain goose,") the small grey Chinese, white Chinese, and Bremen. Of the latter there is a splendid stock, derived from an importation made by Col. Jaques in 1822. The female of the imported pair is still living, and has reared a brood every year since she has been in the country, and bids fair to do the same for as many more years. The ducks comprise the most esteemed domestic varieties, as well as several wild species, which have been partially domesticated. Among the latter, we noticed a flock of about twenty of the beautiful wood or summer duck, and several pair of teal.

Most of the poultry, except the geese, are kept in the building before described, every night. The apartment is cleanly swept out every day, and the manure, which is carefully saved, is sold at one dollar a barrel to the morocco-tanners.

The bulk of the food for the poultry, consists of Indian corn, but buckwheat and wheat-screenings are given for variety, and they are kept constantly supplied with butchers' offal and green vegetables—as cabbage and turneps.

We shall look with interest to the success of this novel establishment.

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Large Yield of Hay.

In our number for August last, we published a paragraph in reference to a large yield of hay, obtained by H. W. Clapp, Esq., of Greenfield, Mass.

We learn from the Greenfield *Republican*, that the lot was mowed twice last season, and the amount of the two crops is given as follows: "In July, the first crop was cut, and cured; and we have the an thority not only of Mr. Clapp but the workmen, that it was *well* cured. The crop was all weighed, and yielded 29 tons, and 497 pounds. In September, the second crop was cut and weighed, and produced 14 tons and 97 pounds—making together 43 tons 594 pounds. The area of the lot is 7 acres and 100 rods. This is very nearly six tons to the acre." The hay is stated to have been sold at $10 per ton, which gives the yearly income of $432 for the 7 acres and 100 rods. The *Republican* states that the lot was formerly quite uneven. Mr. Clapp leveled it, and plowed and subsoiled it, after which it was seeded to grass. It has since been annually top-dressed with about 100 loads of manure, which costs one dollar a load. The crops have been extraordinary, that of 1849 having been nearly equal to that of 1850.

Irrigation.

Editors Cultivator—I read with much pleasure, an article under this head, in your December number: yet there are some parts of it, in which I do not concur, and which I think erroneous as regards the eastern or middle sections of the United States. It is stated that "the proper season is from about Michaelmas till Lady-day; but Mr. Turner entirely objects to summer irrigation, as forcing the land too much, and as calculated to give the sheep, who then depasture upon it, the rot."

My experience, of 30 years, is entirely different. I have used water in irrigation, on mowing lands, from as early in the spring as the frost is out of the ground, until about the time of making hay on the land; and after the hay has been gathered into the barn, occasionally until the setting in of the frost of the succeeding winter; and have had no reason to believe that I was "forcing the land too much." Some of my land has been in grass for the whole period, and has had no manure, except that derived from the water, and the droppings of the cattle, when feeding off the aftermath. The hay crop has been larger of late years, than it was at the commencement of the time above stated, and the average crop is sufficiently large to satisfy the reasonable expectation of any farmer, even from his best land. I have for two winters allowed the water to run on my land, but shall not again irrigate at that season of the year. I received no injury, where the descent was so great, as not to allow the water to become stagnant, but in hollows, where the water was without motion, it would freeze over, and if the ice was transparent, so as to allow the sun's rays to pass through, the grass was destroyed.

Whether summer irrigation will produce the rot in sheep, I have no practical knowledge, but should think it improper that any animal should be pastured on irrigated land, when it is wet. My practice has been, to let on the water after haying, for several days, until I think it properly wet; I then shut it off, and when sufficiently dry, I allow my cattle to feed off the grass, and this I repeat from time to time through the season, as I have occasion. From this procedure, I have discovered no objection, except the additional labor in keeping the ditches in repair, which have been damaged by the hoofs of the animals feeding on the land.

I also object to a part of Mr. Turner's directions in relation to the construction of his second ditch; of the first and third I fully approve. He says "in the hill-side meadows, the gutters conduct the water from a spring on the upper part of the hill-side, in a lateral, but oblique direction, with a gentle fall across the face of the hill. At the opposite side, but so arranged as to leave a considerable interval between each main gutter, it turns, and brings the stream back, at a lower point, across the face of the hill again, and somewhat parallel with the first line, but still descending, when it again turns, and so on till it reaches the bottom."

It will be perceived, that at the "opposite side," the space between the second and third, and fourth and fifth ditches, will be greater than at any other place, so much so, that a portion would not be equally watered with the other land. I have also practiced side-hill irrigation. My practice has been to have my several ditches as parallel as the formation of the land will allow, preserving a proper descent for the water, the water to run in the same general direction in the ditches. From every spring there is a channel down the hill, formed by the running of the water. In this channel, I have small flumes or hatches, with gates, just below where I wish to commence my ditches; the first as high on the hill as I can use the water, and it is usually the case that ditches may be run each way from the channel on the side of the hill. I take the water into the highest ditch, and allow it to run over the side for its whole length, and as equally as is practicable; it then passes over the pannel below, and in its course, from the inequality of the land, will get formed into little rills, to the ditch below. Hence it is desirable that the pannels should not be too wide. The water is intercepted by the second ditch, and by it, in the same manner is diffused over the land. And so on for the whole face of the hill, if there is sufficient water to irrigate the whole of the land at the same time, which is not often the case. If the supply of water is insufficient for that purpose, I first irrigate so much of the higher part of the field as I have water for, then let it run down the original channel to a pannel, where I wish to use a part or the whole of it, and there irrigate as on the first pannel. I have found that the effect was more beneficial, when the water was made to run over the side of the ditch, and strain through the stems of the grass, than where it moistened the roots of the grass by percolating through the earth. Each of the ditches should have a flume at its mouth to control the water at pleasure.

Probably there is no one thing, in relation to a farm, so useful and so much neglected, as irrigation. There are but few farms, on which hill-side irrigation may not be practiced to advantage, for at least a portion of the year. In the spring months, the water from the dissolving of the snows, and from the rains, is too often permitted to carry the richest portions of the soil off the hill, without obstruction, into the swamps and mill-ponds, where it is forever lost to the farmer; for the want of a few ditches, readily made with the plow, at a trifling expense, which would enable him to strain the water before it leaves his premises, retaining its enriching properties for the benefit of his future crops. Even in those cases where the stream is small, and but of few days continuance, it will be an object for every farmer to make his ditches, and use all the water (if he can) in irrigation. He will then be convinced of the truth of Mr. Turner's declaration—"remember, gentlemen, that *the artificial watering of meadows robs no dung-hill; on the contrary, it raises one for the benefit of other lands.*" It should be recollected that the term *meadow*, is in England applied to all mowing land, whether wet or upland.

I would not be understood as denying that the time between Michaelmas and Lady-day, may be a suitable period for irrigation in the climate of Great Britain, but as an unfit time for that object in the middle and eastern portions of the United States. In England the winter is far more mild, and the summer, from the frequent rains and fogs is much more wet, and so cold, that Indian corn will not ripen its seed. Hence the difference may arise.
JOHN W. LINCOLN. *Worcester, Mass., Dec.* 11.

Studies in Natural Science.

WE have received from Mr. JOSIAH HOLBROOK, several articles written by him for the NATIONAL INTELLIGENCER, designed to show the importance of a knowledge of the connection of geology and chemistry with agriculture. This design is carried out in a manner which cannot fail to interest and benefit the practical farmer. The illustrations are of the most simple kind, and the technical terms, which are often objectionable to novices, are explained in the plainest manner. The subject is thus brought within the comprehension of those commencing with the rudiments of scientific agriculture. We commend the articles to the attention of our readers. EDS.

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Connection of Geology & Chemistry with Agriculture...No.1.

No class of the community have an equal interest in geology with farmers. No science is so interesting to farmers as geology, in connection with chemistry. The two sciences cannot be separated and justice done to either. While the elements of our globe, especially of soils, require chemical tests to determine their character, these very elements are absolutely essential for experiments to determine the fundamental principles of chemistry. Oxygen, the most powerful chemical agent in creation, is also the most abundant material in rocks and soils. The one as an element, the other as an agent, are alike essential to each other, and both indispensable, as at the foundation of all agricultural science.

A knowledge of each is as feasible as it is important—entirely within the comprehension of a child six years old. Each is a science of facts more than abstract reasoning—of facts, too, equally instructive and delightful to every young mind.

Take an example: The child has placed before him two glass tumblers—the one containing quartz, the other lime or sand and chalk. The name of each is of course as readily learnt as the name of iron, lead, gold, tree, horse, or any other object in Nature or Art. Into each tumbler is poured some sulphuric or muriatic acid. In the tumber of lime the pupil observes an action—in that of quartz no action. He is told this action is called effervescence. He hence learns to recognize lime and quartz, and the more certainly from the recollection that the one effervesces with acids and the other does not.

Here is an example of geology and chemistry, alike useful to the farmer and interesting to the farmer's child, or any child. The same simplicity and direct fundamental instruction run through the whole of both of these exceedingly practical sciences.

I will hereafter point out a few of the leading principles of these sciences; their connexion with each other; their essential importance to all classes, and, most of all, farmers; their exceeding fitness for the early instruction of children, and the entire feasibility of having them among the "first lessons" taught in each of the eighty thousand American schools.

Oxus is the Greek word for *acid;* ginomai, in Greek, means *make;* hence the literal meaning of oxygen is *acid maker*. Combined with sulphur it forms a sulphuric acid; with nitrogen, nitric acid; with carbon, carbonic acid, &c. Respiration, combustion and fermentation are the three principal operations producing the combinations of oxygen and carbon; the results, carbonic acid.

Acids combine readily with metals, earths and alkalies—as iron, lime and potash. By chemists these combinations are called salts, designated by the termination *ate*. Sulphuric acid, combining with various bases, produces sulphates; nitric, nitrates; carbonic, carbonates. Sulphate of lime is gypsum or plaster of Paris; sulphate of iron, copperas; of soda, glauber salts; of magnesia, epsom salts. The carbonate of lime is common limestone, marbles, chalk, and many beautiful crystals. Carbonates of iron, copper, and lead, are ores of those metals.

About a century ago water was found to be composed of oxygen and hydrogen, and common air of oxygen and nitrogen. About half a century since oxygen was found by Sir Humphrey Davy to be an element of rocks, of course of soils, as it was of the alkalies, potash, and soda. The other elements in earths and alkalies, combined with oxygen, were found by the same great chemist, to be metals very peculiar in character.

It hence appears that oxygen is an element in air, earth and water, existing abundantly in solid, liquid and ærial forms. In the whole, it constitutes nearly half our globe. It is, of course, the most abundant element in the material world. It is also the most important agent in producing changes in matter essential to human existence. It is very appropriately called *vital air*, as neither animal life nor any life can exist without it. It is no less essential to combustion than to life. It also acts with great energy upon metals and other solid substances. In this action it produces three very large and very important classes of bodies—oxydes, acids and salts. Iron rust is the oxyde of iron; the dross of lead, oxyde of lead; burnt lime, the oxyde of calcium; pure potash, the oxyde of potassium; pure soda, the oxyde of sodium; silex or flint, the oxyde of silicum. The combination of one part oxygen and four of nitrogen constitutes the atmosphere; three parts oxygen and one nitrogen form nitric acid, aquafortis. Combined with other substances, it forms numerous acids. Saltpetre is the nitrate of potash. The large quantity of oxygen it receives from the nitric acid fits it for a material in gunpowder—giving to that powerful agent its principal power.

A plate, tumbler and scrap of paper, with a little water, will enable any teacher or parent to perform an experiment on oxygen equally simple, instructive and interesting. In a deep plate pour some water. On the water place a scrap of thick paper, piece of cork, or other light substance; on that another piece of paper or cotton moistened with oil. On lighting the paper or cotton, place over it a large empty tumbler. The combustion continues for a few seconds, and when it is extinguished the water occupies about one fifth of the space in the tumbler, showing the necessity of oxygen for combustion, and that it constitutes about one-fifth the air we breathe. What man, woman, or child would not like to be familiarly acquainted with an element so abundant and an agent so active as oxygen, especially when such an acquaintance is equally simple, useful and delightful?

ANSWERS TO INQUIRIES.

Best kinds of Corn for garden cultivation.—T. S. The best early variety for "green corn," or "roasting ears," is the Early White Flint, or Canada White Flint. It is an eight-rowed kind, with small stalk, and quite productive in ears. It has been known to reach the state fit for boiling in eight weeks from the time of planting. The "Darling Sweet Corn," (originated by the late Judge Darling, of New-Haven,) is nearly as early as the above, but is not as prolific. The best variety for the latter part of the season is the "Large Sweet." It has usually ten rows to an ear, ears nine to ten inches long. It is the kind grown by the Shakers for drying for winter use.

Clover Hay.—C. H., Cayuga county. If clover has been cut at the right time, or while most of it is in blossom, and rightly made—that is, preserved with its heads and leaves on the stalk, free from mustiness—it is worth as much per pound or ton, as any other hay. It is better than timothy for fattening stock, milch cows or sheep. It is more bulky in proportion to its weight than most other kinds of hay, and hence the mistake frequently made in regard to its being of less value. The objection that it is liable to waste more than other kinds in feeding, will not apply to that which is passed through a cutter. If it is cut, none need be wasted, if the mangers or feeding troughs are of the right kind.

What time should Ewes yean?—B. N., New-York. The period of pregnancy in the sheep is five months. For flocks which are kept chiefly for wool, it is generally preferred to have the lambs dropped about the time the grass starts, so as to afford sheep a "good bite." The advantage of this is, that grass causes the ewes to give a supply of milk for the lambs, (which Merino sheep will not have without grass, unless great attention is paid to their feeding,) and the lambs are reared with more certainty and less trouble. Where lambs are designed for the butcher, it is best to have them dropped as early as March; and by feeding the ewes with good hay and plenty of succulent food—as carrots, turneps, &c., the lambs will grow rapidly.

Rye-Grass.—C. T. B. This variety of grass is better for pasturage than for hay. It starts very early, and is ripe before most varieties are in a sufficiently mature state to cut It is good for sheep-pastures, both from its earliness, and from its being well relished by sheep. The kind called Pacey's rye-grass, is generally preferred. Half a bushel of good seed is generally sown to the acre. It is not a good grass for lawns, as it grows too much in bunches or stools, which make the surface uneven.

Compost of Muck.—W. S. We should prefer ashes to lime to mix with muck. Lime does not as readily neutralize the acid of the muck, and the compost is more soluble from the use of potash.

India-rubber Milker.—We have never seen the article tried. It is for sale by Jas. McMullen, of this city, at $2.50 per set.

Pine Apple Cheese.—H. M. M., St. Charles county, Md. We will give an article on this in our next.

NEW PUBLICATIONS.

Youatt on the Structure and Diseases of the Horse, with their remedies; also practical Rules to Buyers, Breeders, Breakers, Smiths, &c.; being the most important parts of the English edition of "Youatt on the Horse," somewhat simplified: Brought down to 1849, by W. C. Spooner: To which is prefixed an account of the breeds in the United States, compiled by Henry S. Randall; with numerous illustrations. Derby & Miller, Auburn, N. Y.

This is a work of nearly 500 pages duodecimo. It is handsomely "got up," and embodies a large portion of the valuable matter contained in the English works referred to in the title. We shall take occasion to notice it more particularly hereafter.

Harper's New Monthly Magazine.—The December number of this work is the commencement of the second volume—two volumes being given in a year. The publishers have introduced a new feature—that of giving "occasionally some of the master-pieces of classical English literature, illustrated in a style of unequalled elegance and beauty." The December number contains Goldsmith's *Deserted Village*, with beautiful engravings, and much other interesting reading.

Water Cure Journal and Herald of Reforms.—This monthly publication, it will be seen by an advertisement in this number, has been greatly enlarged and improved. It is beautifully printed, on paper of very superior quality, and altogether presents an appearance not excelled by any work with which we are acquainted. Its reading matter is of an interesting character. Published by Fowlers & Wells, New-York.

The Horticulturist, and Journal of Rural Art and Rural Taste. This magazine has been published four and a half years, and its influence in reference to the objects to which it is devoted, is strikingly shown in the rapid progress of improvement in various parts of the country. It is a work which is alike useful to the amateur, and commercial gardener and horticulturist, and is, indeed, indispensible to all who would keep up with the march of knowledge on these subjects. The editor, Mr. Downing, is known both in this country and Europe, as one of the ablest writers of the age, on all branches of horticulture, landscape gardening, rural architecture, &c.; and its correspondents include many of the most intelligent cultivators of the country. This work is issued on the first of each month, in the best style of the periodical press; each number containing 48 pages, embellished with a frontispiece, and several other engravings. A new volume commences with the present month, (January.) Terms—three dollars a year—two copies for five dollars, payable in advance. Business letters should be addressed to the Proprietor, **Luther Tucker**, Albany, N. Y.; and communications to A. J. **Downing**, Newburgh, N. Y.

The Farmer's Guide to Scientific and Practical Agriculture. This is an elaborate and most valuable work by **Henry Stephens**, athor of the *Book of the Farm*, with notes by Prof. J. P. **Norton**, of Yale College, designed to adapt the work to the United States. It is published by **Leonard Scott** & Co., 79 Fulton-st., New-York. It is issued in numbers, at 25 cents each, or $5.00 in advance for the work, which will be completed in 22 numbers, 13 of which are already issued. It will form one of the best and most comprehensive treatises on agriculture that has ever been published.

British and Foreign Medico-Chirurgical Review; or Quarterly Journal of Practical Medicine and Surgery. This valuable publication, which should be in the hands of every medical practitioner, is republished by Messrs. R. & G. S. **Wood**, 261 Pearl-street, New-York, at three dollars a year.

New-York State Agricultural Society.

Annual Meeting.

The *Annual Meeting of the Society* will be held at the Capitol, on the 3d Wednesday, 15th of January. Premiums will be awarded on *Farms*, *Essays*, *Dairies*, *Butter*, *Cheese*, and *Farm products generally;* and an exhibition of Fruits will be held at the Society's Rooms.

It is desired that there should be an extensive competition for the premiums offered by the Society; and a full representation of farmers from every county in the State.

Persons sending fruits are requested to have the varieties properly labelled and named, with the name and residence of the exhibitor; securely packed and directed to the Agricultural Rooms, and forwarded as early as practicable. It is desirable that the character of the soil, the exposure of the orchard, and its management, and the habits of the tree, as to its thrift and bearing character, be given.

The following committees have been appointed for the Winter Meeting:—

Management of Farms.—A. Van Bergen, Coxsackie; Hamilton Murray, Oswego; James Kelly, Rhinebeck.

Essays, Draining, and Agricultural Work for Schools.—John Delafield, George Geddes, and J. P. Beekman.

Butter and Cheese Dairies.—B. P. Johnson, S. A. Law, Meredith; George Brayton, Oneida.

Butter and Cheese on Exhibition.—Henry Wager, Oneida; Phineas Rumsey, Orange; J. W. Ball, Otsego.

Fruit.—Herman Wendell, M. D., Albany; Hon. Samuel Miller, Rochester; R. L. Pell, Pelham; Hon. Theron G. Yeomans, Walworth; Charles Lee, Penn Yan; Mr. Tibbits, White Plains.

Wheat, Rye and Oats.—J. B. Burnet, Onondaga; D. S. Curtis, Cannan; Hon. Lorenzo Rouse, Oneida.

Indian Corn.—Boswell M. Reed, Coxsackie; Hon. Orlando Allen, Erie; Lewis F. Smith, Half-Moon; Mr. Beers, Somers.

Barley, Buckwheat, Peas and Beans.—Benjamin Enos, Madison; Stephen Haight, Dutchess; Thomas Bell, Westchester.

Potatoes and Root Crops.—James M. Ellis, Onondaga; E. N. Pratt, Greenbush; Henry Miller, Hudson.

Madder, Corn Fodder, Flax, Hops, Tobacco, Broomcorn.—Hon. James Farr, Washington; James Macintyre, Fonda; A. Osborne, Watervliet.

Pomological Exhibition.—J. McD. McIntyre, J. J. Viele, Sanford Howard, B. B. Kirtland, James Wilson,

Treasurer's Account.—Lewis G. Morris, and President and Secretary, and Corresponding Secretary.

Committee to Arrange for Winter Meetings.—E. P. Prentice, Luther Tucker, B. P. Johnson.

Agricultural Survey of Seneca.—J. P. Beekman, George Vail, Z. C. Platt.

DOMESTIC ECONOMY.

Method of Curing Prize Hams.

The hams of Maryland and Virginia have long enjoyed a wide celebrity. At the last exhibition of the Maryland State Agricultural Society, four premiums were awarded for hams. We are informed by those who had the opportunity of examining them, that they were of first rate quality. The following are the receipes by which the hams were cured:

T. E. Hambleton's Recipe—1st premium. To every 100 lbs. pork, take 8 lbs of G. A. salt, 2 oz. saltpetre, 2 lbs. brown sugar, 1¼ oz. of potash and 4 gallons of water. Mix the above, and pour the brine over the meat, after it has laid in the tub some two days. Let the hams remain six weeks in brine, and then dried several days before smoking. I have generally had the meat rubbed with fine salt when it is packed down. The meat should be perfectly cool before packing.

J. Glenn's Recipe—2nd premium. To 1000 lbs. of pork, take half a bushel and half a peck of salt, 3 lbs. saltpetre, 8 lbs. sugar, and 2 quarts of molasses. Mix—rub the bacon with it well; keep on for three weeks in all, but at the end of nine days take out the hams, and put those which were at the top, at the bottom.

R. Brooke Jr.'s Recipe—3d premium. One bushel fine salt, half bushel ground alum salt, one and a half pounds saltpetre to the thousand lbs. pork, left to lie in pickle 4 weeks, hung up and smoked with hickory wood until the rind becomes a dark brown.

C. D. Slingluff's Recipe—4th premium. To 100 lbs. Green Hams, take 8 lbs. G. A. salt, 2 lbs. brown sugar or molasses equivalent, 2 oz. saltpetre, 2 oz. pearl ashes, 4 gallons water, dissolve well, skimming off the scum arising on the surface. Pack the hams compactly in a tight vessel or cask, rubbing the fleshy part with fine salt—in a day or two pour the above pickle over the meat, taking care to keep it covered with the pickle. In four to six weeks, according to the size and weight of the hams, (that is to say, the longer period for heavy hams,) hang up to smoke, hock up; smoking with green hickory wood. I have put up hams for the last 12 or 15 years by the above recipe with uniform success, equal at all times to the sample now presented.

To the above we add the following, which we, as well as many others, have satisfactorily proved:

For every one hundred pounds of meat, take five pints of good molasses, (or five pounds of brown sugar.) five ounces saltpetre, and eight pounds rock salt—add three gallons of water, and boil the ingredients over a gentle fire, skimming off the froth or scum as it rises. Continue the boiling till the salt, &c. is dissolved. Have the hams nicely cut and trimmed, packed in casks with the shank end down, as the pickle will thus strike in better. When the pickle, prepared as above, is cooled to blood heat, pour it over the hams. They may lie in pickle from two to six weeks, according to the size of the pieces, or the state of the weather, more time being required in cold, than in warm weather. Beef or mutton hams, intended for smoking and drying, may be cured according to this mode, and will be found excellent.

Much of the goodness of hams depends on smoking. They should be hung at such a distance from the fire, as not to be heated. They should also be hung up with the shank end downward, as this will prevent the escape of their juices by dripping. Small hams, wanted for immediate use, will answer with two weeks' smoking, but larger ones, and those wanted for keeping, should be smoked four weeks or more.

Fried Potatoes.—The French method of cooking potates affords a most agreeable dish. The potatoes are peeled, wiped, and cut into thin slices, then thrown into a frying pan containing an abundance of hot lard. As soon as they become brown and crispy they are thrown into a collander to drain, then sprinkled with salt. and served up as hot as possible.

NOTES FOR THE MONTH.

Acknowledgements.—We have received communications since our last, from R. Grant, W. L. Owen, L. L. Bullock, John Johnston, J. S. P., A. K., D. T., J. W. Lincoln, J. H. Salisbury, H. M. Mattison, J. French, H. M. M., J. W. Proctor, P. P. P.

Books, Pamphlets, &c. have been received, during the last month as follows:—Catalogue of Officers and Students of Yale College, for 1850–51, from Prof. Norton.——The American Journal of Science and Arts, for Nov., from the Editors, New Haven, Conn.——Report of the 5th exhibition of the Delaware county (Pa.) Institute of Science, with the address of J. M. Broomall, Esq.——Youatt on the Horse, with notes by W. C. Spooner and H. S. Randall, from the publishers, Derby & Miller, Auburn.——Proceedings of the Philadelphia Society for promoting Agriculture for 1850.

"**One who intends to be a Farmer.**"—Your plan of farm-buildings is very creditable to a young architect, but is lacking in some points which convenience and economy require. For instance, there is no provision for the storage of grain, though there is a threshing-floor; the apartments for the storage of hay and straw for the different kinds of stock, are much too small, and their situation requires too much labor to carry the fodder to the stock.

Phosphate of Lime.—We learn from Dr. E. Emmons that an inexhaustible supply of this article has been discovered on the west shore of Lake Champlain, at Crown Point. A considerable quantity of it was quarried last autumn, some of which has been examined by Dr. E., and also by Prof. Norton, and has been found to contain from four to five per cent of phosphate. It may be prepared for use as manure, either by being ground in a mill, after the manner of grinding plaster, or it may be burnt, like lime. It is harder than plaster, and would require more force in pulverizing. When burnt, it readily falls to powder.

It will be recollected that the use of phosphate of lime has been attended with highly favorable results in some parts of Europe, particularly on old pasture grounds, and such as have been much devoted to grain crops, which have been exhausted of their phosphates. We trust that accurate trials of this article will be made the coming season, in comparison with bones and other manures, for various crops and on various soils, and that the results will be given to the public. Farmers will then have some criterion by which they may determine its relative value, and the expediency of purchasing it as a manure.

Drainage of Soils.—So far as we can learn, the results of under-draining in this country have given great satisfaction. Mr. John Johnston, of Seneca county, who may be considered the pioneer in this enterprise in western New-York, informs us that he laid down about 5,000 tiles the past autumn, making, with what where before laid, over 50,000 on his farm. The tile-machine owned by Mr. Whartenbury, of Waterloo, has been in constant operation, and does not supply the demand for tiles. Mr. Johnston suggests to the makers of wire fence, that a good drain, two and a half or three feet deep on the upper side of the fence, (or if the ground is not sloping as near the fence as practicable,) will keep the posts from heaving by frost. If the ground is wet, he says the posts will heave, even if set "six feet deep."

Standard for the Shape of Fowls.—At the late exhibition of poultry at Boston, a well known gentleman, who had carefully examined the different kinds of fowls, observed: These long-legged, thin-breasted chickens will never answer for the table. I speak from forty years' practice in *carving*. I have formerly had them, sometimes, on my table, but have grown wise by experience, and will have no more of them. To say nothing of the poor quality of their flesh, their shape is not right. For instance, if I have a pair of such chickens, and there are half a dozen ladies at table, each chooses a piece of the breast, and there cannot be enough cut from that part to serve round; but if I have a pair of partridges [ruffed grouse,] though they may not weigh more than half as much as the chickens, I can readily take a slice from the breast for each guest. The partridge, then, should be the standard for the shape of fowls; and besides the advantage alluded to, it will be found in general, that the nearer this form is approached, the better will be the flesh, and the greater the quantity in proportion to the bone.

Mr. Bell's Sale of Stock.—We would call particular attention to Mr. Bell's sale of stock, a list of which will be found in our advertising department. He has taken great pains, both in the original selection of his animals, and in the breeding of those he has reared. We saw his whole herd last fall, and can safely say, that one hundred cows of equal value for the dairy, are very rarely collected. Many of the "grades" are animals of much value, combining symmetry, constitution and thriftiness, with excellent dairy properties.

Sale of Short-Horns.—We learn that Geo. Vail, Esq., of Troy, has recently sold the short-horn bull-calf and two year old heifer which obtained the first premiums at the last show of the American Institute. The calf, *Kirkleavington*, was by *Wellington*, out of *Lady Barrington* 3d, both purchased by Mr. V. of the late Thos. Bates, Esq., of Yorkshire, England. The purchaser of the two animals first mentioned, is Mr. Elisha W. Sheldon, of Sennett, Cayuga county, N. Y. We hope his liberal enterprise will be properly rewarded.

"**Chappel's Fertilizer.**"—We have noticed frequent advertisements at the south, of an article under this name, but have seldom seen any particulars in regard to its effects. Mr. Edwin G. Booth, states in the *Southern Planter*, that "he has tried it in every conceivable manner, and," he continues, "if one particle of benefit has ever been imparted to the land or the crop, I have been unable to perceive it, nor has any other person who has seen it been more fortunate." Mr. B. then goes on to give an account of an experiment made on the farm of Richard Irby. "He laid off two contiguous squares on unproductive land,

and put on one the quantity of Chappel's fertilizer recommended; on the other, the usual quantity of guano was sown. That on which the fertilizer was applied remained unproductive; the other produced a good crop. The line of demarkation being as striking as shade and sunshine."

Analyses of Soils, Manures, &c.—From the frequent inquiries which have been made, in regard to procuring reliable analyses of various substances, the officers of the New-York State Agricultural Society, have been induced to make an arrangement with Dr. J. H. Salisbury, by which investigations may be obtained in the various branches of agriculture which practical chemistry is capable of illustrating. The charges for analysis are as follows:

Complete quantitative inorganic analysis of a soil, limerock, gypsum, peat, marl, animal manure,......................	$5 00
Complete proximate organic analysis of a manure, marl, peat, soil,..	5 00
Determination of the per centage of water, dry matter, and ash in manures, &c..................................	2 00
Analysis of mineral or spring waters,........................	7 00

The above fees to accompany all samples or communications. No analysis will be allowed to pass out of the Laboratory till paid for.

The analysis of ores, minerals, rocks, commercial articles, &c., also attended to with care.

For analysis, enough of the above substances should be sent to make half a pound when dry. Of mineral or spring waters, about one gallon is required.

Samples and communications may be forwarded, post paid to Dr. J. H. Salisbury, or to B. P. Johnson, Esq., Secretary N. Y. State Ag. Soc., old State Hall, Albany.

Stanley and Dickerman's Indian Portrait Gallery.—Having had the pleasure of examining this splendid collection of Indian portraits, while it was being exhibited in this city, we feel that by calling attention to it, we may perform a public service. It consists of upwards of one hundred figures, sketched from life by Mr. Stanley, during a sojourn of several years among the various Indian tribes between the Mississippi river and the Pacific ocean. They represent almost every phase of Indian character, from the wild and superstitious Pawnee-Pict, to the civilized and intelligent Cherokee. We have good reason to believe that these figures are *likenesses*, and they are, besides, declared by connoisseurs to possess much artistic merit. Great credit is due to Messrs. S. and D., for the unwearied pains they have taken in producing this collection. The Indian, as he was by nature, is rapidly passing away, and in a short time he will be seen only as changed, more or less, by intercourse with the race by whom he has been supplanted, and before whom he seems destined to yield the last foot of that vast territory over which he once roamed.

Multicole Rye.—E. G. Booth, states in the *Southern Planter* that he has tried this variety of rye in comparison with other varieties, on several kinds of soil, and in all cases the Multicole was superior in yield—on some rather poor soils, it yielded twice as much as any other.

Bones as Manure.—The use of bones as manure was commenced in England, about 1776. It was then common to apply from 60 to 70 and even 100 bushels to the acre—they being coarsely broken by hammers. Experience has proved, however, that so large a quanitty does not produce effects in proportion, and 10 to 12 bushels are now thought to be sufficient in most cases. The annual value of bones used in England for manure. is estimated at £880,000 or $4,400,000.

World's Exhibition for 1851.—We learn from the English papers that the arrangements for this great exhibition are progressing rapidly. The stupendous building, destined to receive the numerous articles which will be sent from all parts of the globe, will probably be completed by the appointed time.

The exhibition is to be opened in Hyde Park, London, on the first day of May, 1851. Goods will be received between the first of January and the first of March,—after the latter day, none will be received. The building is to be 1,848 feet long, 408 feet wide, and 88 high, with a machinery room 936 feet long and 48 feet wide. It is to be chiefly of cast-iron and plate-glass; 4,000 tons of the latter material will be required for the roof. An avenue, 72 feet in width, extends lengthwise through the center of the building. Along the sides of this avenue, at distances of 24 feet, are placed columns, for the support of the roof. Girders of iron are inserted into the sides of the building and the columns, 18 feet from the floor. These girders are two feet in depth, and 2,244 of them will be required. The strength of these girders, and of every piece of iron used in the building, is tested by a powerful hydraulic press. A transept crosses the main building near its center. The transept is to have a circular roof, which is to rise 20 feet above the other part of the building, and cover a row of six very large elm trees, around which it is intended to provide a first-class refreshment room. The length of the transept, including the space to be set apart for refreshment rooms, will be 408 feet, its width 72 feet, and the height from the floor to the center of the circular roof will be 108 feet.

To prevent the attack of the "Onion Grub."—The growth of the onion is frequently prevented and the plant sometimes destroyed by a worm which attacks it as soon as it appears above ground. A correspondent of the *Gardener's Chronicle* states that he has applied nitrate of soda with good effects in preventing the ravages of this insect. He used half a pound of the salt to a gallon of water, and applied eight gallons to a bed of ten yards in length. He states that it checked the progress of the worms, and the crop turned out well.

Average Products of an English Farm.—The following are the averages of some of the products of a farm of 740 acres, near Brighton, England, occupied by Wm. Rigden. He has 250 acres of wheat, averaging 26 bushels per acre; 40 of barley, 40 bushels; 60 in oats. 60 to 80 bushels; 240 acres in clover and grasses, two tons hay. He keeps 350 South Down ewes, which average yearly about 400 lambs; average quantity of wool yielded by the flock, four pounds per fleece, and it sells at 25 cents per lb. He keeps 21 cows, which yield on an average ten quarts of milk per day, the year round.

Height of Lightning Rods.—It has been laid down as a rule, derived from experiments made in France, on the conducting power of lightning-rods, that a rod will protect a circle whose radius is equal to twice the height of the rod. Prof. Loomis, of New-Haven, states that he has heard of a case where a pile of shavings were set on fire by lightning, at the distance of one hundred feet from a lightning rod of fifty-nine feet in height. From this case Prof. L. concludes that it is unsafe to rely upon a rod to protect a circle whose radius is more than once and a half the height of the rod.

Relative weight of Corn and Cob.—The proportion of corn to the cob, in different varieties, is a matter of great importance, and should be duly regarded in selecting a kind for cultivation. The same point should be aimed at in this case as in animals for fattening—the least proportion of offal to the valuable parts. E. M. Bradley gives the *Rural New-Yorker* the results of an experiment on this subject. The varieties of corn were the Dutton. (yellow twelve-rowed,) the Vermont, (yel- eight-rowed,) and the Red-blaze, (white eight-rowed.) Samples of each of these kinds were husked the first week in October, thoroughly dried; then carefully weighed and shelled, showing the following results:—

75 lbs. of ears of Dutton gave of cobs 20 lbs. 9 ozs., of corn 54 lbs. 7 ozs.

75 lbs. of ears of Vermont corn gave of cobs 15 lbs. 12 ozs., of corn 59 lbs 4 ozs.

75 lbs. of ears of Red-blaze gave of cobs 15 lbs. 11 ozs., of corn 59 lbs. 5 ozs.

The corn was measured before it was shelled. Of the Dutton there was two bushels and four quarts; of the Vermont two bushels, and of the Red-blaze two bushels and two quarts. Thus the two latter varieties yielded 8½ per cent more corn in proportion to the weight of cob than the Dutton, and considerably more in proportion to the bulk. There is another disadvantage connected with large cobs, which should be noticed. They are much longer in drying, and consequently the grain is much more likely to mould and spoil, either in the crib, or while it is in shock.

Wm. M. Plant.] ST. LOUIS [Wm. Salisbury.

Agricultural Warehouse and Seed Store,

Corner of Fourth and Green Streets,

(Lately Plant & Brother,)

By PLANT & SALISBURY, Wholesale and Retail Dealers in Garden, Grass, Flower, and other Seeds.

CLOVER, Timothy, Red Top, Blue Grass, Millet, Randall Grass, Orchard Grass, Hemp, Mustard, Locust, Osage Orange, Canary, &c., &c. Best market rates paid in *cash* for the above Seeds.

Implements and Machines.

Plows, Harrows, Seed Sowers, Hay Cutters, Corn Shellers, Shovels, Spades, Hoes, Rakes, Haying Tools, Horse Rakes, Budding and Pruning Knives, Saws and Chisels, &c., &c.

Agricultural Books—A Large Stock.

Also, Fruit and Shade Trees, Green-house and Garden Plants, &c., all of which we will sell as low as any other house in the city. A Descriptive Catalogue furnished to post-paid applicants. Orders solicited and promptly executed by PLANT & SALISBURY.

St. Louis, Jan. 1, 1851—1t.

Prouty & Mear's Celebrated Premium Center Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.

Jan. 1—1t. BARR & ATTERBURY.

Mount Rutsen Fruit and Ornamental Trees.

THE subscribers have for sale all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, Apricot, Nectarine, Quince, Red Antwerp and Franconia Raspberries, Gooseberries, Currants, and Strawberries.

Also, a good assortment of Dwarf Pear Trees. None cultivated but those that have been tested in this country. When purchasers desire, selections will be made by the proprietors, so as to afford a regular succession of the best varieties through the season, and all warranted true to their names.

Trees for canal and railroad well packed in bundles, inclosed in mats, put up in moss.

All communications, post-paid, to be directed *Rhinebeck, Dutchess Co., N. Y.* GEORGE SNYDER & Co.

Jan. 1, 1851—1t.*

BUSINESS NOTICES.

To our Subscribers.

With this number we send you, agreeably to our promise, a copy of

The Pictorial Cultivator Almanac,

which has been got up at a heavy expense, expressly as a New Year's Present to the subscribers of The Cultivator. If, in return, all who receive this number will use their influence to increase the list of our subscribers for the present year, they will confer a favor for which they will receive our hearty thanks.

Every Subscriber an Agent.

All our Subscribers, as well as all Postmasters, are especially invited to act as Agents for our publications, The Cultivator and The Horticulturist.

☞ Agents who compete for our Premiums, will aid us in keeping their accounts, if they will number their subscribers, 1, 2, 3, and upwards.

Remember the Terms to Clubs.

Seven Copies for $5.00—Fifteen Copies; and a Dollar Book to the Agent, for $10.00.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office. We will address them to as many different offices as may be necessary

Premiums to Agents of the Cultivator.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following Premiums will be paid, in Books, or Implements or Seeds, from the Albany Agricultural Warehouse, to those who send us the largest number of subscribers for 1851:

1. To the one who shall send us the greatest number of subscribers to The Cultivator for 1851, with the pay in advance, at the club price of sixty-seven cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS.
8. A copy of Thomas' "American Fruit Culturist," price one dollar—a very valuable work—or any other dollar book—to every Agent who sends us fifteen subscribers and $10, and who does not obtain one of the above prizes. LUTHER TUCKER.

Albany, N. Y., Jan. 1, 1851

THE HORTICULTURIST,

AND

Journal of Rural Art and Rural Taste.

Edited by A. J. Downing,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit-Trees of America," &c., &c.

To all persons alive to the improvement of their gardens, orchards, or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "Foreign Notices" present a summary from all the leading Horticultural Journals of Europe; the "Domestic Notices," and "Answers to Correspondents," furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest and most valuable works on either side of the Atlantic.

A New Volume, (the 6th,) is commenced with the January number, 1851, with some important improvements in the mechanical appearance of the work; and no efforts will be spared by the editor or publisher, to render it still more worthy of the liberal patronage extended to it.

Terms—Three Dollars per year—Two copies for Five Dollars. All payments to be make in advance, and orders to be post-paid.

☞ All Agents for The Cultivator, and Postmasters generally, are invited to act as Agents for The Horticulturist.

LUTHER TUCKER,
Publisher, Cultivator Office, Albany, N. Y.

State Agricultural Warehouse.

THE subscribers would respectfully invite the attention of Farmers and Planters to their varied assortment of

Agricultural and Horticultural Implements,

among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Rail Road Horse-power and Thresher, (all of which took the first premiums at the late State Agricultural Fair, and are unequaled by any now in use;) together with a full assortment of the latest and most improved Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c., &c., which they will sell at as low rates as any similar establisment in the United States.

We shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles of us may re'y upon their giving satisfaction, as we intend keeping only such as we can fully warrant.

BARR & ATTERBURY,
Jan. 1—1t. No. 25 Cliff-street, New-York.

Prospectus of the Water-Cure Journal, for 1851.

THE WATER-CURE JOURNAL is published monthly, illustrated with engravings, exhibiting the Structure, Anatomy and Physiology of the Human Body, with familiar instruction to learners. It is emphatically a JOURNAL OF HEALTH, adapted to all classes, and is designed to be a complete FAMILY GUIDE, in all cases and in all diseases.

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Will be fully unfolded, and so explained that all may apply it in various diseases, even those not curable by any other means. There is no system so simple, harmless, and universally applicable as the Water Cure. Its effects are almost miraculous, and it has already been the means of saving the lives of thousands, who were entirely beyond the reach of all other known remedies.

PHILOSOPHY OF HEALTH.

This will be fully discussed, including Food, Drinks, Clothing, Air, and Exercise, showing their effects on both body and mind.

REFORMS

In all our modes of life will be pointed out, and made so plain that "he that runs may read." We believe fully that man may prolong his life much beyond the number of years usually attained. We propose to show how.

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No matter of what disease, the principles of Hydropathy may safely be applied, and, in nine cases out of ten, great benefit may be derived therefrom.

TO THOSE IN HEALTH.

Without health, even life is not desirable, unless a remedy can be found. To preserve health, no other mode of living can compare with this system. In fact, were its rules observed and carried out, many of our ills would be forever banished, and succeeding generations grow up in all the vigor of true manhood. It will be a part of our duty to teach the world how to preserve health, as well as cure disease.

WATER-CURE AT HOME.

Particular directions will be given for the treatment of ordinary cases at home, which will enable all, who may have occasion, to apply it without the aid of a Physician.

TO WOMEN AND MOTHERS.

It is universally conceded by all intelligent practitioners, as well by the old school as the new, that the Water-Cure is not equaled by any other mode of treatment in those peculiar complaints common only to woman. The Journal will contain such advice and instruction as may be considered most important, in all these critical yet unavoidable cases.

THIS JOURNAL

Will be published on the first of each month, containing the best matter with reference to the application of this system to Life, Health, and Happiness, adapted to all classes, on the following

TERMS IN ADVANCE.

Single copy one year,............................	$1 00
Five copies one year,.............................	4 00

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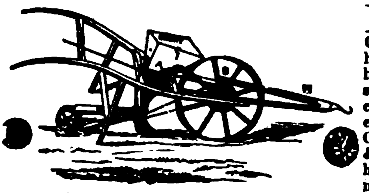
FOWLERS & WELLS,
Clinton Hall, No. 131 Nassau-street, New-York.

N. B.—Now is the time to subscribe. Jan. 1—1t.

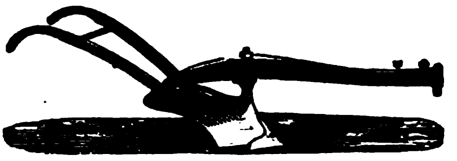
Emory's Seed Planter,



FOR Planting all kinds of Garden Seeds by hand, in drills or hills, and so constructed as to be equally well adapted for planting Corn, Beans, Peas, &c., in drills or hills, and may be instantly gauged to any quantity of seed, and the hills any distance apart, from three inches to eight feet.

The Planter is taken by the handles, and moved before the operator as a wheel-barrow. The Planter makes its own furrow, measures the quantity of seed, and deposits it in the ground, and a coverer and roller follows, which completes the whole operation, as fast as a man or horse can walk. When the rows are three feet apart, from eight to twelve acres are planted per day, or an acre per hour. with a precision not before attained by any other Planter we have seen. In large fields and long rows, a horse is usually attached.

It has been very widely introduced throughout the country during four years past, and with an increased demand,—our orders the last season exceeding all previously sold. Price, complete, $14.00.



Plows.

The Eagle Plows, in great variety of sizes, including some new patterns added the last season to the assortment, and calculated for extra deep Sward work, and for Stubble land, capable of turning under any loose stubble, &c., on the surface.

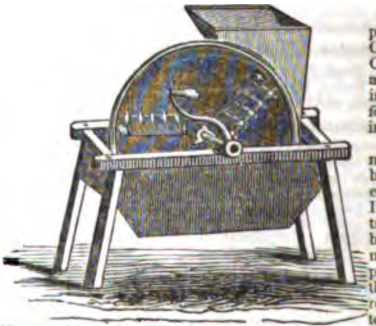
Besides the above, we have had made, expressly for our Trade, two New Patterns—one calculated for narrow and deep work for lapping furrows, of easy draft, and capable of doing the best of work; the other is for lighter broken land, and very well adapted to flat work, if desired—well calculated for one team of horses, and a very favorite Plow where introduced. Several hundreds were sold the past season, of the latter, and in no case have they failed to give satisfaction.

To our assortment we have added the various sizes of the celebrated Plows of Messrs. PROUTY & MEARS, of Boston—some of which received the highest premiums of the New-York State Agricultural Society, at their Trial in June, 1850.

Also, Cultivators of various kinds, and for different field crops. Harrows of several kinds, including the Geddes and Scotch forms, of all sizes.

Field Rollers of various sizes and kinds, including one of 30 inches and one of 24 inches diameter, made of cast iron sections, 15 inches long; as many sections are suspended on a two-inch wrought iron shaft as are sufficient to make the length of Roller required six feet long. Prices of 30-inch, 5 sections, with frame, &c., for use, $50; of 24-inch, 5 sections, $35.

Vegetable Cutter,



For cutting and preparing Turneps, Carrots, &c., for Cattle and Sheep—a very useful and important machine for Farmers feeding roots.

As with it one man can cut one bushel per minute, equally and evenly. It is extensively introduced, and probably is the best machine for the purpose, made in this country. It can readily be attached to and worked by Horse-power.

All the above Machines, together with a very large and complete assortment of the best selected and valuable Implements of Husbandry, to be found in any similar establishment in the country, (many of the leading articles being made immediately under our own personal supervision.) All are warranted to come fully up to the representation.

For further particulars, prices, terms, &c., see our Descriptive Catalogues, containing upwards of one hundred finely executed engravings of our leading Implements, together with descriptions, uses, prices, &c., furnished gratis, on application or by mail.

Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371 Broadway. EMERY & CO.

Albany, Jan. 1, 1851.

To Farmers, Horse-buyers, Breeders, Breakers, Smiths, &c.

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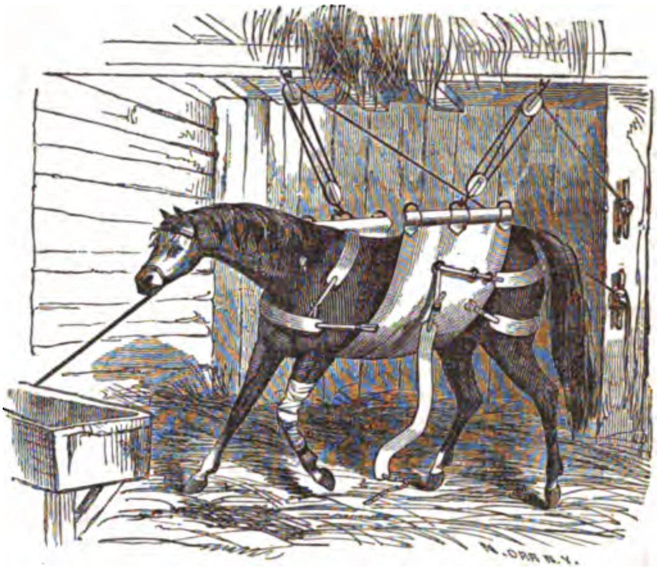
Jan. 1, 1851.



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THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

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AND

JOURNAL OF RURAL ART AND RURAL TASTE,

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, FEBRUARY, 1851. VOL. VIII.—No. 2.

Practical Husbandry.

How to Improve Worn-out Lands.

EDITORS CULTIVATOR—The subject of improving old lands, is one fraught with such interest to farmers occupying the eastern and part of the middle and southern States, that there is little danger of too much being said about it, provided what is said is of a practical nature. Before proceeding to the details of the subject, I wish to call attention to a fact which appears for the most part to have been too much overlooked in this country. It is, that a certain amount of capital is always required to conduct successfully a certain number of acres. ARTHUR YOUNG, in his *Farmer's Calendar*, gives the amount of capital, laborers, utensils, &c. &c. necessary, or supposed to be necessary, to conduct successfully an English farm, but this data would perhaps be of little use in this country. There is no greater barrier within my knowledge, to the success of our farmers, than this same want of capital. So far from having means at their command, we find, on looking around us, in many sections of the country, our farmers heavily in debt, and paying a heavy interest. Their resources, therefore, are hampered in the start; and nothing but hard labor, and the most rigid economy, enables them to get hold of anything with which to improve.

To what cause are we to attribute this want of means? Is it because farmers are in very many instances poor? I answer, no. No man is poor who owns 20 or 30 acres of land within a day's journey of a good market, and who has a cash capital of $1000; but a man may be poor, very poor indeed, to all intents and purposes, who owns 100 acres of land in such a situation, without a dollar of cash capital to improve it with. This then is equivalent to saying that I consider the passion for owning a great number of acres, one of the greatest misfortunes to our working farmers. How common is it, to hear a man who owns 30 or 40 acres of land, spoken of as one who has only a *potato patch*, and yet perhaps this very man on his potato patch, raises more than his neighbor who owns 100 acres. Depend upon it, this is all wrong; the best farmer is not the man always who has the most land, but the man who raises the greatest amount from the least number of acres and with the least expenditure. It is far easier and better to get fifty bushels of corn from one acre than two. If I were called upon for advice by some one who owned 50 acres of land, and who was about to buy 20 more, I should certainly say,—rather sell 20 of what you possess, than buy 20, unless your cash capital warrants it. With money in hand, stock can be bought on the most favorable terms, and just at such times as it is wanted. With money in hand, labor can almost always be obtained, just when it is required. With money in hand there is no need of "store bills"—goods can be bought cheaper and better for cash.

But I cannot pursue this matter here: my present purpose is to say something about the improvement of old lands. The subject should be considered under two heads. The improvement of sandy or light soils; and the improvement of clay or heavy soils. I shall take the first for the present article, endeavoring to keep as near as possible to practical experience without favoring one theory or another.

What is the first thing necessary for improving a worn-out sandy soil? I answer, to change its texture, and bring it into, or approaching, that state called loam. How is this to be done? I answer, by a mixture of heavier soils, such as clay, and by the application of barn-yard and other manures, in a proper manner. Any man who has an accessible swamp upon his farm, containing good muck, has the means in his power of enriching his soil. If he has not one of his own, perhaps some neighbor, living at no great distance, may own one; and if it be large, he may have enough for his own use and be induced to sell a certain number of loads yearly for a small compensation. But as it is not always in our power to obtain clay or muck, we must mainly depend upon manures. The *collection, preservation* and *application* of manure, then, becomes a very important matter to the farmer.

THE COLLECTION OF MANURE.—About this, I believe we are, most of us at least, very far out of the way. There is a waste of manure on most of our farms every year, so great that could it be presented to our minds in the light it ought, would, I am sure, startle us. Many farmers think they have not time to *make* manure, and yet without manure, they are well aware that they can grow but poor crops. Leaves, weeds before seeding, dirt from road washes, the wood-yard, the fowl-houses, the pig-pens, when properly managed, supply a vast amount of valuable manure. The first four named, should be incorporated with the droppings and litter of the barn-yard and stables; the fifth should be mixed with plaster and ashes, according to the receipt in the May number of the Cultivator for 1850, page 181, and which I think is certainly one of the finest composts I ever used. The pig-pens should be kept well littered with straw, leaves, weeds, &c., and the farmer will be amply repaid for the trouble it will cost him.

Straw is so valuable for converting into manure, and contains comparatively speaking, so little actual nutriment as food for stock, that I think it ought seldom to be used for the latter purpose. Some excellent remarks upon this subject, from the pen of Mr. John Johnston, of Geneva, will be found in last September's Cultivator. I feel sure that they will accord with the experience of all those who have tested the matter thoroughly. The bare droppings from stock, make comparatively but a very small quantity of manure. It may be said that although small in quantity, it is more highly concentrated, and will go further. To a certain extent, this may be true; but it is a well-known fact, that the whole mass of straw, leaves, &c. &c., when incorporated with the droppings and saturated with the liquid from the stock, becomes almost as valuable as the clear droppings, and may be made to exceed it many times in bulk. It is therefore better economy to pass the straw through the yard in order to get a greater amount of manure to apply to the growth of valuable crops. Those farmers living near villages or cities, have opportunities for obtaining manure which are out of the power of those farther off, unless the means of transportation are easy. We presume no good farmer will neglect any opportunity afforded him to obtain a supply of manure at rates that will repay him.

The Preservation of Manure.—I am fully of the opinion that manure ought to be well rotted, to be applied to the greatest advantage on sandy soils. For that purpose, therefore, the manure of the farm should be secured, either under sheds for the purpose, or in yards so planned as to prevent loss by drenching rains, or leaching off, and made one year to be applied the next. The heaps should be covered with dirt or plaster of Paris, in order to prevent the escape of ammonia.

The Application of Manure.—I have found by repeated trials, that about two to three inches is the best depth to cover manure when applied to sandy land. I should always prefer plowing the ground first, when practicable; spread the manure broadcast, evenly over the surface, after which, harrow in well with an iron tooth harrow. If manure is used, which is not rotted, it should be put on before plowing, and the ground well harrowed afterwards. I have obtained great benefit from top-dressing grass lands early in the spring, with well rotted manure. There is a custom prevailing in some places, which I think cannot be approved of by the best farmers—namely, manuring the corn crop in the hill, with barn-yard manure. In behalf of the custom it is urged that a greater quantity of corn to the acre can be raised in this way, and that the manure can be made to cover a greater space. The fact is, it is a forcing system; the idea is the making a good crop, not the general improvement of the land. If the season prove moist, a good crop may doubtless be raised in the way named; but should the season prove dry, the manure in the hill would damage more than benefit the crop. The only advantage gained, is in giving the corn a start. As to covering over a greater space of ground, I can only say that I think an even culture the greatest beauty of farming, and my dislike to the system in question is, that it militates against this. Corn is a crop, the roots of which run out every where in search of food; if manure is spread evenly over the surface, as soon as the roots of the corn begin to extend themselves, they will be sure to find it, and at a time, and in such quantity, as is best suited to the growth and development of the plant—and the ensuing season our eyes will not rest upon an uneven field of oats; here a tall cluster of spires, and there an army of dwarfs. I have stood some distance off, and looked over a field treated in this way, and could count where every hill of corn had been the season before. Such a system of husbandry is not calculated to improve our worn-out land. We want an even culture, calculated to benefit the whole, not a part of the land. Broadcast applications of manure, evenly spread over the surface, are always the best.

Plowing Sandy Soils.—So far as my experience goes, I have found six inches the best depth to plow sandy soils and loams. I am aware it is very fashionable to say "plow deep," and I think this is said too much, without any discrimination. In clay soils, there is little fear of going too deep, but there seems to me no reason in plowing a soil to a great depth, that is already too porous. Even sandy loams are not benefitted by too deep plowing, and as to subsoiling any light soil, except, perhaps, for the purpose of raising root crops, I think it ruinous.

Fencing.—The first object of attention in regard to fencing, should be to get line fences in good order. "Good fences make good neighbors," is an old and true adage. The lines should be evenly divided, and memorandums to that effect should be exchanged between the parties. The kind of fences will necessarily depend much upon the location occupied; in some places timber is abundant, and stone scarce; in others the reverse of this occurs.

In all places where stone fences can be made, they are greatly to be preferred; they are stronger, more durable, and less expensive. I have often been surprised, in going through different sections of the country, to see a field covered with loose stones, surrounded with a poor-looking, old rail fence. The owner had perhaps plowed it for years in that condition, and the idea never seems to have entered his mind, that the stones could be converted into a fine fence, bettering the condition of his farm, and giving it a thrifty appearance.

I have said that stone fences are less expensive than other kinds; as an idea to the contrary seems prevalent, some explanation may be necessary. Let us make a calculation as to the relative cost of stone and wood fences. I mean, of course, where stone is abundant. Worm fences are probably the cheapest kind of wood fences.

1 panel, of 12 feet, will cost as follows:

7 rails at 6d each,	$0 42
2 stakes, 3d, each,	06
Labor putting up,	02
Total,	$0 50

This estimate, in the section of country where I reside, would be considered low. Now, I have had good single walls built, three feet bottom, (singled up to a foot across the top,) and four feet high, (such walls will stand better than double ones, unless sunk below the frost, and made very large,) for from 50c. to 63c. a rod, including every expense, board of men, teams, &c. Such a fence, then, costs not as much as worm fence, and is far stronger and more durable. A fence of this description will resist cattle and horses that would vault over, or tear down, a seven railed worm, or five railed post and rail fence.

The expense attending fencing a farm is always great, but there is no outlay that pays better than a judicious system of fencing. Where stone or timber is plenty, fields can scarcely be made too small. I should be glad if the tillable land of my farm was fenced in acre lots. It is, perhaps, to the system of fencing in small lots, more than anything else, that farmers living in mountainous lands, are enabled to live and do so well as they do. In order to get rid of the stone on their land, they are necessarily compelled to fence in small lots. This gives them an opportunity to shift their cattle often from field to field, thereby obtaining for them fresh pasture almost daily. I recently heard of a man who grass-fatted twenty head of cattle on twenty acres of land. This seems at first view, almost incredible, but a glance at his plan will show that it is not impossible. He fenced his fields into acre lots: when the grass was well grown, he turned his twenty head into one field. This they eat off pretty clean, and manured pretty well in a day—he then, next day, turned into the next field, and so on till the whole were used. By this time the first field had had twenty days rest, and was covered again with an abundant herbage. The same system was pursued througout the season. Now, had these twenty head of cattle been turned into a twenty acre field, it would not have been long before they would have had it gnawed down to the earth, and so far from fatting, they would, in all probability, have had hard work to find a living on it. If any one should think it an objection to fencing in small lots, that it takes up too much of the land, I think upon trial, that the advantages accruing therefrom, will be found so great as to amply compensate for the loss of land.*

In many parts of the country, it seems to me that there is no system of fencing at all—at least I should judge so from the perfect want of plan and order with which fields are enclosed. We have seen them of so many different shapes, sizes and figures, that it would require a pretty good geometrician to tell what they were. I know that plain farmers cannot always have everything according to the rule and plummet, but I think some improvement might be made in this department of farming, which would be of great advantage to the farmer, as well as contributing to beautify the general face of the country. Upon many farms where I have been, in this and other sections of country, I have found a great source of inconvenience arising from the want of lanes. I have known farmers to drive cattle nearly half a mile to get to some particular field, which could have been reached in 200 yards, had a proper lane been made where it ought to have been. In many instances, the use of whole fields are lost for a season, from the want of lanes. An impression seems to exist, that they take up land. If farms are properly laid out, lanes, which will make themselves easy of access all over, will take up but little room, and it will not be lost, for they always afford a great abundane of good pasture.

GENERAL IMPROVEMENT OF THE FARM.—There is no quicker way within my knowledge to improve a sandy soil, and no one calling for less outlay, than

* We are unable to agree with our esteemed correspondent on this point. We think the division of land into small lots, is liable to objections that are by no means balanced by the advantages. It creates a great expense in the erection and support of fences, occasions the loss of land, and increases the expense of cultivating crops. In the case of stone walls, they necessarily cover several feet in width, and besides the ground they actually cover, there is always a strip on each side which cannot be plowed, and whenever the field is in tillage, the use of this strip is lost. If land is divided into "acre lots," the number of turnings in plowing and other work, is much increased, and in consequence of the time thus lost, much less work is done in a day. As to the advantage of shifting stock in the way proposed, there are different opinions. Some who have tried both small and large divisions, for pasturage, have given the preference to the latter. To fat an animal on an acre of grass, is doing well, but not better than is frequently done in the best grazing districts, without resorting to such small divisions as our friend recommends. Eds.

the following: Fence off a number of fields in one, two, or three acre lots, according to the size of the farm; get one or two of them seeded well with common clover. Begin with the first lot; turn in as many hogs as it will keep well during the season; a little corn in the fall will make them fit for market. Next season do the same; the third season the land will be rich, and can be plowed for corn, or any crop you please. Go on to the next field with your hogs, and so on till the whole is exhausted. This plan is well adapted to fields situated on steep side-hills, which are difficult of access, and to which, in consequence, manure cannot easily be carted. It is said hogs will do well on clover without water, but I think they will do better with it, and should there be no water in some of the fields, it can be supplied from other fields. A half hogshead, filled once a week, and left where it could be supplied to them from large troughs, would answer a good purpose in lieu of anything better. Great care must be taken to keep the hogs well rung and the fences must be looked to often, as hogs are sometimes unruly, although, as a general thing, I think that when animals are well fed and taken care of, they are not apt to be a trouble to either owners or neighbors.

IRRIGATION.—No good farmer who has it in his power to irrigate a portion of his farm, from brooks or streams running through it, will, I am sure, neglect so important a means of enriching it. A neighbor of mine, a year or two ago, found that he could obtain a supply of water from a mill pond, some distance off, by which he could irrigate some 40 acres of his land. He bought the right to do so, and the right of way across the property belonging to the miller. I think he paid $400 in cash for it, and is to pay $25 a year besides, as long as he chooses to let the water run on his meadows. Some of his neighbors thought him crazy, but he has already received benefit enough from it, to show that he was warranted in paying the price he did. The difference between the grass he cut before the water was put on, and what he cuts now, is truly astonishing. I have myself, this fall, succeeded in carrying a stream of water from a brook running through a part of my farm, to a meadow some 300 yards distant, containing about three acres, and look confidently for the increase in my next years' crop of grass to pay all the expense of doing it, which was about $18. I have some streams from the hill-sides, during the spring and part of the summer, which do good work on my pastures and meadows in their vicinity.

But the length of my communication warns me that it is time to stop. One word to my friends of the plow. The new year is come upon us; let us resolve with it to begin a better and more thorough system of improvement upon our old soil; let us perfect old systems, if they are good, and plan out new ones. Read and improve ourselves. If you happen to belong to that class who already know enough and have nothing to learn, pray write and disseminate your knowledge, that we who would gladly learn all we can, may benefit by it. H. C. W. *Putnam Valley, N. Y., Nov.* 28, 1850.

Manures.—Top-Dressing.

WE are indebted to Hon. JOHN W. PROCTOR, of Danvers, Mass., for a copy of an essay on Top-dressing Grass-Lands, written by Mr. CHARLES L. FLINT for the Transactions of the Essex County Ag. Society. The length of the paper precludes the possibility of our publishing it entire, and we therefore give the following extract, which contains many useful suggestions:

It is a very common practice to suffer the manure from the barn to lie exposed for months to the winds and rains of summer and winter. Many farmers have no arrangement by which the liquid and most valuable part of stable manure, is saved, and yet, under all these disadvantages, they are too apt to congratulate themselves on having so many loads of manure. They do not consider that it is the quality, and not the quantity, which adds richness to the soil. The practice of digging a cellar under the barn, is becoming more common among enterprising farmers, and it may be said that the increased value and quantity of the manure, is enough to pay far more than the interest of the extra expense. Sheltered manure is far more valuable; but in cases where this has not, and cannot well be done, much of the real value may be saved by forming the yard so that nothing may escape. Let peat mud and loam be thrown in to absorb what would otherwise be lost. Plaster, occasionally thrown into the yard, is like money—I will not say in the savings bank, but rather put to compound interest.

In Flanders, where the greatest economy is practiced, the liquid of a single animal is estimated at from ten to fifteen dollars a year. This, applied as a top-dressing, has a surprising effect. No one should neglect to form a compost heap; it may be so made as to form an extremely valuable article for top-dressing. A quantity of meadow mud, should be dug out in the autumn, for this especial purpose. That this is indispensible, will be seen from the fact that two cords of peat mud, added to one cord of good stable manure, will make a compound of three cords as valuable as clear barn manure.[*] This has been tried repeatedly, and is constantly done by those who are ambitious to excel in farming. To this compost should be added, from time to time, all the animal and vegetable matter adapted to enrich the soil; woolen rags, the remains of fish, the blood and flesh of animals, the hair of animals,—all these make an exceedingly rich manure. A most intelligent gentleman, connected with a wool factory, informs us that

[*] Peat varies much in its value as a manure. Some may be worth what it is here estimated at; but we think it put too high to be received as a general rule. EDS.

a cord of matter collected at the establishment, is worth at least five or six cords of the best stable manure for a top-dressing. This we cannot doubt, for here are the blood, the wool, pieces of the skin of the animal, and many other substances, all collected together. A fermentation takes place by which the richest gases are formed. Such a compost heap, with an addition of loam and mud, would be invaluable for a top-dressing. But though, in most cases, all these substances cannot be procured, many of them can and should be saved by every one who is desirous of improving his lands. Those who are near the sea, or near the market, can procure an abundance of fish to add to the compost. Nothing is better for soils than this. Ashes should also be added, and when additions of manure are made, they should be covered with mud or loam to prevent waste.

We need not enter more minutely into the details of forming the compost heap; it is sufficient to say, in a word, that everything capable of fermentation may be added to it. The lower layer should be of loam or mud. Nothing is more common among farmers, on the death of a horse, or any other animal, than to throw the body away. It is estimated by some, that the body of a single horse, when divided and mixed with peat, mud and loam, will make a compost worth fifteen or twenty cords of the best and richest manure. This is perhaps too high an estimate, but animal substances ferment rapidly, or rather they may be said to putrify without fermenting, so quick is their decomposition. Leaves, grasses, moss, straw, and other substances of like nature may be used, and when they are well fermented, the heap should be thrown over; and if it is made long and narrow, so as to expose the greater surface to the air, it will be better. Whenever such a compost has been used as a top-dressing, it has produced the most astonishing effects. Many experiments have shown that this is the best way of using such a compost. In the fertile county of Hertford, in England, it is seldom used in any other way. It cannot be too highly recommended.

Animals fed on rich food make the most valuable manure. This will serve to show why the manure from the pig-sty is so fertilizing. Swine are fed on a great variety of rich food. The actual profit of raising them in some places, arises mainly from the amount of substances they will mix together and make into good manure. Let the sty be supplied at intervals with mud, loam, and other vegetable matter, and farmers will not complain of the cost of these animals.

Liquid manures are highly useful to grasses. Care should be taken to apply them, also, to the compost heap. The richness of manure from the sty, is owing mostly to the great quantity of liquid matter; hence the importance of adding a great variety of vegetable substances, loam, and mud. In a word it may be said that all liquid manures contain a large amount of nitrogen, which is an important ingredient of ammonia. The importance of saving the liquid of stables, either with the compost, or to be applied by itself, may be seen, also, in the fact that the exceeding richness of guano and the ordure of all fowls and birds, is due to the union of liquids and solids. Spent ley from the soap boiler, is also a powerful liquid application. It shows its good effects for years, when properly applied.

After fermentation has taken place in animal manures, in the compost heap or elsewhere, they may be spread without much loss by evaporation; and hence it matters not whether the top-dressing is applied in the autumn or in the spring. Plaster is better spread in the spring, when the moisture of the earth makes it immediately available. Not so with other manures. Some prefer the autumn for spreading these, while others prefer the spring, just before the thick grass surrounds and protects them from the sun and wind. The soil in autumn is not injured by the loaded cart, as it is apt to be in spring. Others still apply them after the first mowing, and before the summer rains. The new crop preserves the manures from drying up and wasting. This, however, is ordinarily too busy a season to attend to it with convenience.

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Natural Application of Chemistry to Agriculture.

By J. H. Salisbury, M. D., Albany.

The advantages to be derived from knowing the composition of rocks.—Soils are rocks broken and worn more or less fine. If a portion of any soil be taken and examined carefully, a greater or less number of small fragments of rock can be easily discovered with the naked eye. To separate these, place the soil in a small dish, and throw on a small quantity of water; agitate, and then decant or pour off the riley or turbid liquid, which holds in suspension the finer particles of the soil. Repeat this a second, third and fourth time, or till the water which is poured on the soil after agitation, appears clear, or free from any fine particles of soil.

Let the washings stand and settle. While this is going on, examine the materials in the dish which are too coarse to be suspended by the water.

These will be found to be fragments of rocks. In some soils, nearly or quite the whole of them will consist of one kind of rock; in others many kinds mingled together.

After the finer particles in the washings have subsided, pour off the clear liquid, and dry the fine soil which has settled. On examining this with a small magnifying glass, the whole of it, except a small quantity of organic matter, will be found to be composed of fragments of rocks, and simple minerals, in all respects similar to the larger fragments previously examined, but many of them very minute.

How came the rocks in this form? The rocks came in this form mainly through the influence of air, frost, water and acids. We, by a little observation, can see and understand how powerful an agent water is in breaking down rocks and depositing them in the form of soil. We need but visit any of the thousand little streams that come babbling from the hills, through as many rocky ravines. By tracing any one of the busy rivulets to its source, and noting all of the materials over which it flows, and gathering a specimen of each, then descending to the plains, where it more leisurely glides, where the materials which it has gathered in its course among the hills are deposited—at first the more coarse, then the more fine—we shall find that the samples gathered correspond in almost every respect, except in that of fineness, with those which have been brought down from the highlands by the stream, and left on the plain in the form of soil.

This is what we observe on a small scale. The larger streams, as well as the smaller, are engaged in the same work of wearing down in one place and depositing in another. Water, holding in solution acids,—as carbonic, sulphuric and nitric,—exercise an action in decomposing the rocks with which they come in contact; but this action is chemical, not mechanical, and very limited too, when compared with that of the busy rivulet, the ever plodding river, the surf-beating lake, or the storm-driven ocean. Frost and atmospheric changes, also, exercise a powerful influence. It is through the action of these agents, that the soils are formed, fitted and sustained, so as to support vegetation in such abundance and luxury.

Some soils are made up almost entirely of one kind of rock. When this is the case, it is evidence that the soil has not been transported from any other place, but that it has been formed mainly by the decomposition of the rock on which it rests. This occurs in many places where there is no drift or transported materials, and the same rock extends over a considerable range of country.

The advantage of knowing the composition of the rock on which such a soil rests, is, that by knowing it, we know the general composition of the soil. Soils are often made up of the worn down fragments of a number, and sometimes of a great variety of rocks and simple minerals mixed together. A soil of this description is generally drift, i. e., has been transported from a distance, unless it occurs where a number of rocks crop out in the same vicinity.

By knowing the composition of the various rocks which compose this soil, the composition of the soil can be approximately determined or arrived at; in other words, we have a general idea of its constituents.

This knowledge could be very advantageously used in the purchase of lands, in selecting grain farms, grazing farms, or in deciding in a general way, upon the kind of crop or crops best suited to a soil, and what it would probably be necessary to add in order to fit it for any particular grain, root, fruit, &c.

Other things being equal, the more completely the fragments of rock are broken down or divided, the more productive the soil which is formed. The reason of this is, the finer the particles, the more readily are they dissolved or separated into their proximate inorganic constituents. They must be dissolved before they can enter the plant as food.

The advantages to be derived from knowing the precise composition of soils.—The knowledge which we derive from studying or knowing the composition of rocks, although very useful and important, is so, for the most part, only in a general way. It gives us a kind of information which we could gain by no other means, and may be considered as a stepping-stone to a series of inquiries or investigations, more special and minute, to wit: the study of the composition of soils.

One great aim of the agriculturist, should be to know the precise composition of the soil he cultivates. If he knows this, he is able to calculate the actual and the percentage amounts of the several inorganic bodies and organic matter, which enter into the composition of an acre or any given area of his land, at the depth of six, ten or twelve inches. This gives him the quantity of each ingredient of his soil which lies within reach of the plants he grows. The practical utility of this knowledge, will be more plainly set forth when we come to speak of the advantages to be derived from knowing the composition of cultivated plants, and that of the substances used for manures.

The practical utility of knowing the composition of cultivated plants.—It is not enough for him who tills the ground to know the constituents of his soils, and that of the rocks on which his soils rest. Every one who follows the pursuit of agriculture, who attempts to avail himself of the advantages which practical chemistry affords, finds that after he has obtained an analysis of his soil, and that of the rocks on which it rests, that although this information is of great practical use, yet there is still a something wanting in order to regulate and adjust the compass which is to guide him understandingly and safely on. He says to himself, "I understand what the ingredients are which compose my soil, but I do not know what my crops remove from it, as I am ignorant of the substances which compose them. If I did know what ingredients entered into the composition of my several crops, and the percentage quantity of each ingredient, then I could calculate nearly the exact amount of each that is taken away from my ground, and could adopt measures to return them as fast as removed."

The advantages to be derived from knowing the composition of manures.—Suppose, now, that he knows the composition of his soil, rocks and the plants he cultivates; he still feels that there is yet a link wanting in order to complete the chain. Says he, "I know now the quantity of each inorganic ingredient that is removed yearly from my soil. It will not pay me to go to a commercial establishment and purchase these substances. My crops, if I do this, will hardly pay me for the food they eat. I must take some other course. Here are a variety of substances called manures. If I learn the composition of these, I shall then know whether they contain all the bodies which are removed by my crops. If they do, then I can add such of them as will yield to my soil the ingredients which are removed. This is admitting that my soil is fitted to produce in the best manner any crop which I wish to to grow on it when I begin. But suppose my soil is poor, or does not contain all the ingredients in a sufficient quantity to be productive. My first step is to find out its precise composition. After I have determined the percentage amount of each ingredient which it contains, I then know what bodies to add, and in what quantiny to fit it to grow any crop I wish it to produce.

"I now understand the mechanical condition of my soil, the ingredients which compose it, the ingredients which enter into my crops, and the ingredients which make up my manures. If the mechanical state of my soil is such as to make it too wet, too cold, too adhesive, too loose, too fine or too coarse, I have only to drain it, or to add such materials as will make it less adhesive, or more adhesive, less fine or less coarse, as the case may be, to fit it, so far as the mechanical part goes, to grow any plant adapted to the climate in which it lies.

"If now, my soil is in a proper state, mechanically, and does not contain all the ingredients which I know exist in the plants which I wish to grow on it, all I have to do, is to add such manures as will yield to it the bodies in the proper proportion, which my plants require to feed upon. This is necessary, because my plants cannot travel about and collect their food like animals, but are stationary, and must have everything which goes to nourish them, or to build up and support their several tissues, placed within the reach of their arms or roots.

"I now begin to see my way clear. I feel that this knowledge has entirely changed my mode of farming. You will observe that I do not believe as I once did, and do not transact my business as I used to do. I do not, now, think it advisable, when dealing with my soil, to claim the best end of the bargain—to pilfer, cheat, or rob it of a little, every year, because I have learned that such a course is not for my interest. Although it might at first, perhaps, give me a few extra coppers to jingle at my leisure; yet eventually it would prove a permanent injury, for by it I lose both my reputation and my soil. I find it much better for me to deal honorably and honestly,—to return to my soil an equivalent for whatever I take away. I then feel myself an honest man. My soil admits my honesty, and is ever ready to serve me with the bounty I ask."

The practical use of knowing the composition of the several parts of the animal body.—Our thinking friend now understands clearly that part of his occupation which pertains to the best mode of cultivating plants. But there is another branch intimately, and we might almost say inseparably connected with agriculture; and that is the rearing and fattening of animals. Says our thinking friend as he reasons, my animals subsist upon the plants which I grow upon my soil. They must, then, contain the ingredients which are found in the plants on which they feed. I may hence infer that if I would rear and fatten them in the best and most economical way, I must advance one step further, and study the composition of the several parts of the animal body, and understand the functions or office or duties of the several organs which compose it. I must not only know the composition of bone, the composition of muscle, nerve, fat, membrane, cartilage, hair, &c., with the general percentage of each of these in the healthy animal; but I must also understand what matters pass off through the various organs of secretion, as the liver, kidneys, &c., together with those which go off through the lungs in respiration or breathing, those which are carried off through the skin in perspiration or sweating, and those voided as manures. I must, also, know how the secretions and excrements vary in the same animal when fed, at different times, upon different kinds of food. I shall then understand what part of any given kind of food eaten, goes to feed the bones, what part to feed the muscles, nerves, membranes, &c., what deposited is in the form of fat, and what is rejected and cast off in the form of excrements. This knowledge I know, says our friend, is of great practical use. For instance if I wish an animal to fatten in the least possible time, with the least possible waste of material, it enables me to feed him on such materials as will bring about this end. If I desire an ox or a horse to endure great muscular fatigue, I am enabled to keep him on such food as will best strengthen and support the muscular system.

The proximate compounds for the most part, which we find in animals, we find also in plants. These compounds are made up entirely of ultimate or simple elements. All of the ultimate elements, so far as known, which exist in animals, exist in plants. All of those found in plants exist in the soil and air. These ultimate elements, it is supposed, enter plants nearly, if not entirely, in their simple state. It is the office of the plant to organise or group together these simple bodies into compounds, which take the name of proximate bodies or compounds; which means that they are made up of two or more simple or ultimate ingredients—as carbon, hydrogen, oxygen, &c.

Starch, dextrine, sugar, gum and fibre, are each proximate organic bodies, and are severally composed of the ultimate elements carbon, hydrogen and oxygen, united in each case in nearly the same proportion. It is the office of the animal either to transfer the proximate bodies of plants to its own tissues, without materially altering them chemically, or to change them into others more simple, or into such, the ultimate elements of which have a less affinity for each other, than in the original compounds; or to decompose them entirely into their simple elements.

The animal body seems to possess no power like the plant, by means of which it is able to organise or group together simple bodies into what are called proximate organic compounds. The final tendency of the animal, seems to be to disorganise or decompose organised matter which the plant has formed; the office of the plant to organise inorganic matter, or to group together the simple elements of the soil and air into proximate organic bodies. These proximate bodies, animals decompose and return to the soil, for the plant again to organise—to be in turn disorganised again by the animal. Thus, we see that the soil, the plant and the animal, are merely transforming agents for a portion of matter in its continual round of travel. For this reason we know why it is so useful for the agriculturist to clearly understand them. This will be more fully illustrated when we come to give the composition of rocks, soils, plants, substances used for manures, and the constituents of the several parts of the animal body.

Progress of Agriculture.

Improvement in Agricultural Implements, No. 2.

In our last, we noticed the improvements which have been made in several implements of agriculture, and now continue our observations by referring to other improvements in the same department.

The Cultivator or Horse-Hoe, was introduced into England by Jethro Tull, more than a century ago. It has been of considerable importance in lessening the expense of cultivating many crops, as well as increasing the yield. By using this implement instead of the plow in the cultivation of Indian corn, potatoes, turneps, and other root crops, much less labor is required with the hand-hoe; and the cultivator has, in fact, taken the place of the plow to a great extent. Besides the saving of labor in cultivation, which this change has effected, an advantage is derived, on the drier class of soils, from the better situation in which they are left by the cultivator—it leaves the surface comparatively level and less exposed to be dried by the sun and air than when thrown into ridges by the plow.

The cultivator has been greatly improved in its construction within a few years. Steel has been substituted for cast-iron for the teeth or feet, which, for stiff soil, is of much advantage—cast-iron teeth being only fitted to work in soils of the loosest description. The increased length of the teeth, which some manufacturers have added, is of importance in enabling the implement to do thorough work among weeds and grass without clogging.

A form of this implement called the "field cultivator," has been adapted to working fallows and preparing ground for the reception of seed. It is very useful for this purpose, executing the work with despatch, and leaving the soil loose and friable. A man and a pair of horses with one of these field cultivators can thoroughly work over four times as much ground in a day as could be plowed with the same team, destroying the weeds, (unless they are very large) quite as effectually as would be done by any implement.

The Drill-Machine.—It cannot be claimed that this is a modern invention, as a rude article for depositing seeds is known to have been used by the ancient Egyptians. A general use of the drill, however, has not prevailed in Europe or America till a late day. The credit of its introduction into England belongs to Tull, who regarded it rather as an auxiliary to the system of "Horse-hoeing Husbandry," of which he was the originator. His first drill was constructed in 1701; but this appears to have been only designed for clover and lucerne, and it was not till thirty years afterwards that he obtained a patent for a machine for sowing wheat, turneps, &c. Little progress appears to have been been made in the use of the drill till 1782, when by the exertions of the Bath and West of England Society, attention was generally called to the importance of drill-husbandry, and various improvements were made in the implement. Its advantages have since been considered of such great importance, that it has been pronounced the "sheet-anchor" of English wheat-husbandry. In reference to the benefits which were attributable to Tull on account of the introduction of these implements, it has been remarked:—

> "His drill and his horse-hoe, have saved his country in seed alone, the food of millions; and when used as a distributor of manure it has done, and it will hereafter accomplish, still greater things. It has brought into cultivation thousands of acres of barren craig, the wolds of Lincolnshire, of the deep sands of Norfolk; and its powers are not yet nearly exhausted, for as fresh fertilizers are discovered, the drill evenly and economically distributes them, and as improvements in its construction are continually taking place, there is evidently much yet to be achieved by its use."*

The hand-drill has been used in this country for several years, but its use has been confined mostly to garden cultivation and root crops. The introduction of the field-drill in American husbandry is quite recent, it having been scarcely known ten years ago. Its advantages here appear to be fully equal to those which have been realised in Europe; they may be summed up as follows:—

* Scottish Quarterly Journal of Agriculture.

1. It saves seed; 2. It distributes the seeds with greater regularity than it can be done by hand; 3. It deposits the seed at any desired depth, and insures speedy germination; 4. It affords an opportunity to destroy weeds which infest the crop; 5. The crop receives the undivided benefit of the soil; 6. By the the admission of air between the rows, a stronger plant is produced and a heavier crop is obtained; 7. In reference to wheat and other grain, the crop is less liable to blight or mildew; 8. Fertilizing substances may be deposited with the seed, by which the crop is more largely benefitted than it can be by any other mode of using manures; 9. It protects grain against winter-killing.

The drill has been greatly simplified in its construction, and cheapened in price, by our mechanics. With a good machine, a man and a horse will sow eight to ten acres of wheat in a day.

The Reaping-Machine.—This machine is becoming of immense importance, especially in securing the grain crops of the west, where from the great extent of cultivation, and the comparative scarcity of labor, it would be impossible, without it, to gather the harvest. The particular advantages of the different kinds of reapers, were so well set forth in the last number of our journal, that any further observations on the subject, are unnecessary here.

The Horse-Rake.—This is comparatively a new implement, it having been invented but about forty years ago. It has, however, been greatly improved from its first form, and is now much more perfect in its operation, and is worked with much more convenience and less labor than formerly. It saves nearly one half the expense of gathering hay. The implement is made in various ways, though the principal difference is in the material used—the teeth of some being of wood and others of iron or steel wire. The latter kind, if wire of sufficient size and strength is used, answer an admirable purpose in cleaning fallows—drawing out and gathering the roots of couch grass ("quack") and other pernicious plants.

The Straw-Cutter, though not a new implement, has not been brought into general use till within the last twenty-five years. It makes in many cases a very important saving in the expense of feeding horses and cattle. The construction of the article has been greatly improved in respect to its simplicity, and the efficiency of its operation, and the amount of work that can be done in proportion to the power required.

These are some of the improvements which have been made in agricultural implements—to specify all, would require more space than is consistent with our present object. It is evident to those who have had the opportunity of only thirty years' observation, that the scythe, the grain-cradle, the hand-hoe, the vehicles used by the farmer, and nearly all articles, in fact, which he has occasion to use either in the field or the garden, have undergone changes by which they are much better adapted to their respective purposes.

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Animal Heat.

The necessity of a certain degree of heat in animals, in order that life may be supported, is well known; but the process by which this heat is produced, and the importance of supplying the materials for its production, is not sufficiently known and regarded. The cause of animal heat may be said to be the same as that which is called into play in ordinary combustion—that is a union of carbon and oxygen. All animal food must contain carbon, and after the food has undergone a proper change by the action of the digestive organs, the carbon is carried by the blood to the lungs, where, by the process of respiration, it is united with oxygen, and produces heat. We give herewith some remarks from a correspondent of the English *Ag. Gazette*, which illustrate this subject in a very interesting manner. It will be seen that he notices the fact that animals in which respiration is rapid, require food more frequently than those in which respiration is slow; and in this connexion it is mentioned that serpents, whose breathing is very sluggish, will live three months or more without food. In proof of the correctness of this remark, we may state, that in the month of August last, five large rattle snakes were placed in the charge of Mr. Gebhard, the curator of the New-York Geological and Zoological collections in this city. Excepting one, which died in December, they have been confined in a box from that time to the present, and have eaten no food whatever during this period. Two of them have brought fourth young, since they have been in the box; one producing fifteen and the other five. The latter were either dead at birth, or died soon afterwards—as they were all dead when discovered; but of the former, twelve are still living, and like the old ones, have been kept entirely without food. It was one of those which produced young, that died. It is, however, in reference to the higher orders of animals that the following observations are chiefly valuable.

All kinds of food consumed by animals must contain carbon in proportion to the temperature of the climate in which they live, and their appetites will direct them to select the food necessary for their sustenance. At each inspiration, an animal imbibes a certain quantity of oxygen from the atmosphere, (which is composed of 79 parts of nitrogen, and 21 of oxygen,) and it must meet with a proportionate quantity of carbon to sustain life. Animal and vegetable food contain carbon in different proportions; that of fat, bacon or pork, as much as 80 per cent; this may be easily imagined, when we consider that candles are made from fat. After lighting the wick, the atmosphere supplies it with oxygen, and in uniting with each other, they produce light and heat. If the extinguisher be placed over it the light goes out, for nothing can burn without oxygen, and most animals kept ten minutes without air, will die.

The quantity of oxygen that is breathed, regulates the appetites which are brought to supply the system with carbon, sufficient to keep the blood always at the same temperature; for from the authority of the best authors, and the practice of many scientific men, the heat of the blood of a man in Lapland is 98°, the same as at Calcutta, or any other place on the globe. In England, the appetite is greater in winter than in summer, for one-eighth more oxygen is imbibed in the former than in the latter season; for the same air that fills a bladder of 80 cubic inches in winter, will fill one of 100 cubic inches in summer—the heat expands it. In summer we breathe less oxygen than in winter, for the warmer the season, the thinner the atmosphere, and the organs of digestion are in a great measure regulated by the season and climate. In this we see a wise provision, the blood of animals being always at the same degree of heat. A man traveling towards the Equator cannot inhale so much oxygen, consequently he loses his appetite, and does not keep up so great a fire within him; on the other hand, a man moving towards the North Pole will become voracious, as the condensed atmosphere will require so large a quantity of carbon to maintain the standard degree of heat. Persons living in the East Indies, or any other hot climate, exist upon fruits, or food containing not more than 12 per cent of carbon; those living in the Arctic regions, will eat at one meal five pounds of blubber or fat meat, and drink train oil or brandy in proportion. Under the Equator animals will eat less, and bear hunger for a long time, but in a cold climate, hunger will soon cause death. According to Liebig, an adult, in taking moderate exercise, consumes in one day 13 9-10 oz. of carbon, and the conversion of this into carbonic acid, will require 37 oz. of oxygen, and that animals differ in the temperature of the blood in proportion to the respiration and size of their bodies; for instance, the heat of a child is 102°, and an adult 98°; in birds it is 104 to 105, and in animals from 98° to 100°. From this it appears that a child, whose respiration is quicker than in a man, requires food more frequently; a bird deprived of its food will sometimes die on the third day, and a serpent, being sluggish in its breathing, will live three months and more without food. Fishes are warmer than the element in which they live, but although they are generally under water, they are not without air; the finny tribes are provided with a bladder containing air, and according to the expansion of the vessel that contains it, they rise to the surface or sink to the bottom.

The pulse and breathing of animals may be compared to the weight and pendulum of a clock, for one regulates the other. Great exertion will cause quick breathing and palpitation of the heart, and it may be imagined that it may raise the temperature of the blood; but such is not the case, for science and observation will show that animals are protected against excessive heat. In a steam engine, its speed or power is regulated by its furnaces, and as the water becomes rarified, the strokes of the piston become more frequent; but when it arrives at a certain power, the pressure from within opens the safety-valve and liberates the extra quantity of steam. In animals, a quick pulse and quick breathing, may produce more heat, but to keep the circulation always at the same temperature, their skins are provided with pores, which open like safety-valves, to let off the heat by means of perspiration.

It is here necessary to observe that some animals never sweat, but when running, the tongue is protruded, and perspiration is secreted from that member, and the mucous membrane of the mouth. It has been supposed that in racers, hunters, &c., the decrease of fat is attributable to perspiration; but it appears to be from another cause. The quick breathing of a galloping horse may have the same effect upon his fat as the blacksmith's bellows have upon the coal; the coal, (which is carbon,) by receiving a strong current of air from the bellows, is soon reduced to cinders, and the fat (which is also carbon,) is reduced by the oxygen which is breathed. Carbon, hydrogen, nitrogen, oxygen, and sulphur, are the ingredients of fibrine, gluten, and casein, which constitute blood, and being conveyed by the arteries to every part of the body, and having deposited the fibrine, which is the chief ingredient in muscle, and its carbon, which is the chief ingredient in fat, it is returned by the veins and undergoes another chemical change.

Fat animals can live longer without food than those in low condition; a fat pig was once overwhelmed in a slip of earth and lived 160 days without food, and was found to have lost 100 lbs. in a month. In an animal kept without food, the oxygen will apply to the fat for carbon to keep up the heat of the body; after that it will go to the muscles, and leave them soft and weak; lastly it will attack the brain, causing delirium and death. The appetites of animals may be increased by a bracing air and exercise; but the quieter they are kept, the faster they will fatten, provided the sheds, houses, or boxes, are kept at a moderate temperature. Nature has provided the brute creation with clothing sufficient to support life in the climate for which they were ordained; but to prepare cattle for the butcher, abundance of suitable provender, quietness and warmth, are essentially necessary for so large a formation of fat.

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Notes of a Tour in Central New-York.

Analytical Laboratory, Yale College,
New-Haven, Conn., *Jan.* 1, 1851.

Editors Cultivator—I might write you still several more letters upon topics particularly connected with Seneca county, which was the chief subject of my last, but fear lest I might seem tedious, and also wish to avoid telling what will be better told in Mr. Delafield's forth coming report.

The last county fair at which I was present, was that of Ontario county at Canandaigua; my time then being limited, I only arrived in that place on the evening of the first day, and left on the evening of the second or closing day of the fair. I consequently had little or no opportunity for seeing the face of the county, or of becoming extensively acquainted with its farmers.

This county has a high reputation among its neighbors for the spirit shown in its fairs, and for the scale on which they are got up. It was a subject of regret that I could not see the stock, the show in that department being over previous to my arrival. It was described as uncommonly good. Mr. John Greig, President of the County Society, has undoubtedly by his countenance and assistance, done much in sustaining and popularizing these exhibitions; though not a practical farmer, he has the sagacity which so many men of large property lack, to perceive how closely the prosperity of any country is connected with the success and the improvement of its systems of agriculture.

The show of fruit and vegetables on the second day, was remarkably fine. The crowd which it attracted, rendered it difficult to enter into any critical examination of the varieties, and I was obliged to content myself with a general survey. There are numerous amateur producers of fine fruit in this vicinity, and the beneficial results of their friendly rivalry were quite apparent.

The fruit business is becoming an interest of much importance in these western sections of the State, and is destined to prove a source of large income to those who engage in it with an appreciation of what is necessary to success. The soil and climate both concur to favor judicious enterprise in this species of cultivation.

Toward the close of the morning, a plowing match came off, and was contested by a rather numerous company. I was present until driven away by the rain, which commenced just before noon, and continued so violently as to interfere seriously with the enjoyments of the day. Some of the work was very inferior, but for the most part it was good, and there were three plowmen who need not fear to compete even in an English plowing match. I have seldom seen furrows cut more straightly, or more evenly. One or two of the best, were Scotch and Irish, who had learned their trade regularly in the old country. Probably there is no department in our practical agricultural operations, where a greater improvement has been made of late years, than in that which relates to plows and plowing. The construction of the implement, and its proper use, have alike been made special subjects for study and experiment. Plowing matches, in connection with the agricultural fairs, have contributed in a striking manner to this result, and it serves to show how much we may do in other directions, if we will make a corresponding effort.

Notwithstanding a heavy rain, my address was attended by a very crowded audience. The room was densely packed, and quite a number were unable to obtain even standing room within the doors. The subject was, "the necessity of a special education for the farmer," and my observations were received with the same fixed attention, and the same evident interest in the theme, that I had occasion to notice in all this region.

I mention this now, as connected with a few remarks upon the general state of things in these counties, which I design to make in closing this series of letters. With all the home prejudices and all the attachment to New England, of a thorough Yankee, I am constrained to observe, that there are *very few* counties in Connecticut, or even in Massachusetts, where such audiences could have been collected in such weather, and scarcely one where I could have carried my hearers with me so completely. I say nothing of Vermont, New Hampshire, Maine, or Rhode Island, but have no reason to suppose that these States are in advance of the others. So far as my experience goes, the conviction that science can do much for agriculture, and the disposition to learn from scientific men, does not seem by any means so widely diffused in New England, as in many portions of Western New-York. Yet if they were but aware of the fact, the Yankee farmers need instruction sadly in many points. One of the things most to be sought is, to overcome that prejudiced attachment to certain old courses, which the western man, owing to his location in a newer country, has never formed. There are thus greater encouragements to the advocates of scientific agriculture in attempting to influence a western than an eastern audience, as he knows that his hearers may be more readily brought to see advantage in something that has not been sanctioned by old usages.

In the New England States, and in the State of New York, may unquestionably be found the greater portion of our best farmed districts, and still there are in the farthest advanced of these, striking defects of management. The general fact often presents itself while traveling, and surveying farms, that in the actual cultivation and management of the soil itself, the farmers have not as a class attained that proficiency which they exhibit in the other departments of their practical business. Improved animals have been largely introduced, and we are yearly importing the best sheep, the best cattle, the best horses, and the best swine, that the world can afford, thus constantly contributing to elevate the character of our stock. In the character of our implements, the past few years have witnessed a most astonishing change; the old awkward tools have been made light, efficient, and cheap, in a degree that would formerly have been thought almost incredible; while busy invention has been constantly employed in contriving such simple and yet effective machinery, that almost every operation can be far more easily and more economically performed than ever before. In the construction of farm buildings, of farm fences and in the feeding of stock, an increasing and judicious expenditure of capital is to be observed. In most of these respects, I do not hesitate to say that we have advanced in a manner worthy of our own great country, in a manner that no farming community has ever surpassed, if ever equaled.

Now I would ask any man of observation, has the soil during this period of rapid progress elsewhere, been improving in a corresponding degree. There are many single farms scattered about the country, where such a corresponding improvement is to be found; there are also a few districts that can be cited as honorable exceptions, but of many others, the most that can be said is, that the quality of the land has remained nearly unchanged. Of the greater number of farms, my own opionion is, that the change has been for the worse; that there are numerous townships in New-York and New England, where the land produces less per acre than it did ten years ago. The reports of many reliable practical men bear me out in such a conclusion, and any reader who doubts my correctness will, I venture to say, be soon satisfied if he institutes a strict inquiry in his own county or State.

It is obvious then, that if these remarks are correct, the land itself has not been so much the subject of improvement as the stock which it supports, or the implements which are to till it; that in short, it is not at present, as I said at first, generally so good, as are our animals and our tools. We often see this exemplified, by the presence of fine cattle, sheep, or horses, on farms that are constantly growing poorer and poorer, as to their productive power.

This seems to me like beginning, in part at least, at the wrong end; I would be the last one to discourage the improvement of our stock, but think that the soil should be brought up at the same time.

The necessity of this I wish to impress with especial earnestness upon the farmers of the West, where the land is still for the most part fertile, and in no case exhibits the utter exhaustion which may often be seen at the East. The western farmer should consider that he has not only to better his stock and implements, but that he has also, as an equally important duty, to keep his land up, and even improving; if it has already begun to fail, let him turn his attention above all things else, to restoring its productiveness. The land is the foundation of the farmer's prosperity; if that is fertile, and kept in good order, all the other requisites of profit and of good farming, will naturally follow.

If the farmers of the west will be warned in time, if they will pursue the course which even a trifling amount of study will make plain, they will never find themselves called upon to engage in that slow and toilsome process of renovation, which has become so necessary in the older States.

In the counties which I have visited, and which have furnished the subjects of the three foregoing letters, nature has provided exhaustless supplies for restoring and improving the soil; in the hollows and swamps, lie deposits of muck and marl, which will one day be more valuable than gold mines in their effect upon the true prosperity of that region. A vast part of the richest land is lying idle from the mere presence of water, and it was a source of satisfaction to me, that the present race of exhausting farmers, too many of whom yet remain, there, do not know enough to touch it. They look upon it with contempt, and will leave it for their more skilful successors to subdue and cultivate; these will not only do this, but will find enough surplus material to enrich the worn out uplands to which their predecessors have confined themselves. I might continue upon this topic with interest to myself, and as I think with advantage to your readers, but lest they should disagree with me in this latter opinion, will turn to some other subject in my next letter. Yours truly. John P. Norton.

DOMESTIC ECONOMY.

Washing Fluid.

Eds. Cultivator—Take one pint alcohol, one pint spirits turpentine, two ounces ammonia, (hartshorn,) one ounce camphor gum; mix all together, and bottle—cork tight—shake before using.

Directions for using.—For every five gallons of water, about milk-warm, add one pint of soft soap; then put in three table spoonfuls of the preparation. Soak the white clothes thirty minutes; then rinse or wring them out, rubbing them where the most dirt appears. Then put them into clear, cold water, without soap, and boil thirty minutes, and rinse them in clear cold water. The same preparation will answer for colored flannels and calicoes. Soak them thirty minutes, rub and wring them out. Then pass them through the water in which the white clothes were boiled, which will cleanse them sufficiently for rinsing.

This is a method which has been practiced in my family for some months, and I think it superior to any other I have known. It makes a great saving of time and labor. Julia E. Hanchet. *West Stockholm, N. Y.*

Pine-Apple Cheese.

A summary of the mode of making this cheese, as practiced by Mr. Robert Norton, of Rushford, Allegany county, N. Y., is given in the journal of the N. Y. State Ag. Society, from which we take the following. It appears that Mr. N. is from Goshen, Ct., and he is probably a relative of Mr. Lewis M. Norton, of that place, who was the first manufacturer of pine-apple cheese in this country. The particulars of his mode were given in our volume for 1845, page 283.

"His curd is kept until its age brings it into the same chemical state that is produced by a thorough scald; after which it is cut into pieces one inch long and three-eights of an inch square, by a machine which works up 20 lbs per minute; after this it is warmed by water to 90°, and salted at the rate of 1 lb of salt to 50 lbs of curd. The pine-apple cheeses are at first pressed smooth with a neck projecting from the lower end, to which the pressure is applied. The impression is made by a net, which is stretched on by a screw, after softening the cheese in hot water. This toughens the rind and insures the cheese a safe arrival after a long voyage. The Norton cheese is in very great demand by California shippers. The shipping cheeses weigh about 10 lbs. each, and are pressed in tin hoops, in perpendicular columns, containing nine cheeses each."

Recipes for using Indian Corn Meal.

We take the following from a phamphlet published by the Atlantic Dock Mills Company, Brooklyn, N. Y., in relation to Stafford's process for drying Indian corn, and the various modes of preparing it for food. Mr. Stafford, it will be remembered, is the inventor of a valuable process for drying grain by steam, several notices of which have been giving in previous numbers of our journal. The company above mentioned now use Mr. S.'s process in preparing their articles:

Plain Baked Pudding.—One pint of corn flour, one quart milk, half a pint molasses, a teaspoonful of salt. Mix together cold, in the dish in which it is to be baked. Set it in the oven, and stir occasionally until it begins to cook. Bake an hour and a half. Eat hot with butter or sauce.

Egg Pone.—Three eggs, a quart of corn flour, a large tablespoonful of fresh butter, a small teaspoonful of salt, a half pint (or more) of milk. Beat the eggs very light, and mix them with the milk. Then stir in, gradually, the corn flour; adding the salt and butter. It must not be a batter, but a soft dough, just thick enough to be stirred well with a spoon. If too thin, add more corn flour; if too stiff, thin it with a little more milk. Beat or stir it *long and hard*. Butter a tin or iron pan. Put the mixture into it; and set the pan immediately into an oven, which must be moderately hot at first, and the heat increased afterward. A Dutch oven is best for this purpose. It should bake an hour and a half or two hours, in proportion to its thickness. Send it to table hot, and cut into slices. Eat it with butter, or molasses.

Griddle Cakes.—The following is called "Masters' Recipe," and it will be found one of the best, if not the master receipt, for making griddle cakes.

One and a half cups of corn flour, scald with boiling water, one pint milk, one cup of wheat flour, three eggs. Stir in the yolks; beat the whites to a stiff paste before mixing. One teaspoonful of carbonate of soda, and salt to suit the taste.

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Making Candles.—Experience of Mrs. T———, of Ohio. Prepare small wicks of the best wick yarn, and, after being prepared, completely saturate them in clear spirits of turpentine; then dry them thoroughly, before the tallow is applied. Candles made in this way will burn much clearer and last much longer than without the spirits of turpentine.

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How to Make a Good Cup of Tea.—M. Soyer recommends that, before pouring in any water, the teapot, with the tea in it, shall be placed in the oven till hot, or heated by means of a spirit lamp, or in front of the fire (not too close, of course,) and the pot then filled with boiling water. The result, he says, will be, in about a minute, a most delicious cup of tea, much superior to that drawn in the ordinary way.

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Poisons.—Vessels of copper often given rise to poisoning. Though the metal undergoes but little change in a dry atmosphere, it is rusted if moisture be present, and its surface becomes covered with a green substance—carbonate or the protoxide of copper, a poisonous compound. It has sometimes happened, that a mother has, for want of knowledge, poisoned her family. Sourkrout, when permitted to stand some time in a copper vessel, has produced death in a few hours. Cooks sometimes permit pickles to remain in copper vessels, that they may aquire a rich green color, which they do by absorbing poison. Families have often been thrown into disease by eating such dainties, and may have died, in some instances, without suspecting the cause.—Dr. Thompson.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Items in Fruit Culture.

TRIMMING DOWN LISTS.—Thomas Rivers, the celebrated English nurseryman, has fruited about one thousand varieties of the pear, and out of this great assemblage has selected only *four* for raising extensively for market on his own grounds, viz: *Bartlett*, *Beurre d'Amalis*, *Capiaumont*, and *Louise Bonne of Jersey*. In this country, the Bartlett and Louise Bonne of Jersey, are not excelled for the same purpose; the other two might be profitably superseded, as they are not of first quality here.

EARLY JOE APPLE.—So very agreeable to the taste is this new delicious summer fruit, that we have heard Jonathan Buel of East Bloomfield, N. Y., who has long cultivated it, remark that he had seen a man eat a half peck of them at one time, by taking up one after another, before he was aware of the quantity he had consumed.

SHORTENING-IN THE PEACH.—We lately witnessed an interesting example of this operation performed by the frosts of winter. A tree of the Early Anne, planted about ten years ago, stood in so frosty a locality, that about one-half of each of its annual shoots were destroyed by frost every winter, this variety being more tender than most sorts. The consequence was that this tree was kept in a comparatively neat and compact form, with the bearing shoots quite evenly distributed throughout the head. Other sorts more hardy, standing side by side, and which had not been subjected to this natural shortening-in, had extended their principal branches into long and naked arms, with the fruit-bearing portions at their extremities only.

GRAFTING WEDGES.—In cleft-grafting, as every grafter knows, a good iron or steel wedge is wanted, to keep the slit open till the graft is inserted, and accurately adjusted. One of the largest sized cut-nails or cut-spikes, ground to a wedge upon a grindstone, has been found one of the cheapest and most convenient for this purpose, the head of the nail serving a good purpose in withdrawing the wedge.

RECOVERING DRIED GRAFTS.—It often happens that grafts of particular fruits are received in a dried or withered condition from being badly packed; and being supposed to be worthless, are thrown away. The writer once received in autum a small package of a new and rare sort of apple, from a distance of some hundreds of miles, without any protection at all, and they were quite thoroughly *seasoned*. They were encased in moss, and buried a few inches beneath the surface of the earth on a dry spot of ground. By spring they had gradually imbibed moisture, and had become plump again, and on being set, every graft grew. Efforts of this kind often fail in consequence of applying the moisture too copiously and suddenly. Shoots in so withered a condition should receive it so gradually as to require some weeks at least for the completion of the process.

SHORT LISTS.—Samuel Walker, President of the Massachusetts Horticultural Society, says that if he were confined to only one sort of *pear*, he would choose the *Vicar of Winkfield*, from its free growth, productiveness, fair and large fruit, and long continuance. F. R. Elliott, of Cleveland, says that were he to choose but one variety of the *apple*, he should take the *Belmont*. Robert Manning of Salem, Mass., gives as the three best pears, the Bartlett, Autumn Paradise, and Winter Nelis; and B. V. French, of Braintree, Mass., regards as the three most desirable apples, the Porter, Rhode Island Greening, and Baldwin.

HOW LONG WILL BUDS KEEP?—This inquiry is often made, how long will scions for budding keep with safety, and to what distance may they be sent? The answer must vary exceedingly with circumstances. If the growth is green and succulent, and the buds have not become matured, they are sometimes sensibly injured by being kept two or three days only; while on the other hand, if the wood is well ripened, and the buds plump and hardened, they may keep several weeks without injury. In some instances we have received buds from a distance late in summer, and being well matured we have kept a part over till spring, and set them as grafts with success.

INFLUENCE OF GRAFT ON STOCK.—Dr. Kirtland says "A graft of the Newtown Pippin will invariably render the bark of the stock rough and black, (the habit of the variety,) within three years after its insertion." Nurserymen, who by digging up trees, become familiar with the growth of the roots, often notice that certain sorts always have certain peculiarities, on stocks of whatever sorts. For instance, the Yellow Bellflower always has fine, fibrous, horizontal roots; the Gravenstein has large, strong, descending roots; the Yellow Spanish Cherry is remarkable for its large heavy roots, whatever the stock may be.

LONG LISTS—GOOSEBERRIES.—The catalogue of the London Horticultural Society enumerates 149 sorts of the Gooseberry regarded as worthy of notice; and Lindley gives a list of more than 700 prize sorts. A selection of probably one dozen might be made from these, which would embrace all that is desirable, the others either very closely resembling them, or else being inferior in quality.

DWARF FRUIT TREES.—It may be questioned whether a very extensive introduction of dwarf trees will succeed so well in this country as some anticipate, until those generally who plant trees, learn to give them better cultivation than they now commonly receive, dwarfs indispensibly requiring good treatment. And yet they may prove better adapted to some soils than trees on common stock. Dwarf pears have in various instances withstood the severity of winter, or made fine growth, in localities where trees on pear stocks have perished or not flourished. Lindley found that in the chalky soil at Rouen, the cherry on cherry stock was languid and sickly, while it was healthy and vigorous on the Mahaleb stocks. Would not this stock be worthy of trial in those portions of the western States where the cherry has proved so difficult of culture?

SHORTENING-BACK IN TRANSPLANTING.—The Horticulturist states that an orchardist on the Hudson tried an experiment by planting out 78 peach trees of large size, three years growth from the bud. One half were headed back so as to reduce the buds one-half; the rest were unpruned. The season was dry, and *twelve* of the 8°

unpruned trees, perished, and only *one* of those that were headed back. This one would probably have survived, had three-fourths instead of one-half the buds been removed.

MULCHING.—A correspondent of the Horticulturist mulched 50 trees out of 150, all of which had commenced growth alike. Those which were mulched all lived. Of the hundred not mulched, fifteen perished. The weather was hot and dry at midsummer.

MANIA FOR NEW PRODUCTIONS.—A new fruit or flower of great merit may be profitably bought by a nurseryman at an apparently extravagant price, for extensive propagation and dissemination among the public. Hence fifty dollars for a small tree of the Stanwick nectarine, or five dollars for a plant of the Diana grape as long as one's finger, may not be wild. The purchaser of Wilder's two splendid new Camelias, at 500 dollars each made a large profit, by selling the increase at less than a tenth to other nurserymen. But there are many new and worthless things also offered at high prices to the public, and some knowledge is needed to discriminate. We laugh at the famous Tulip Mania which prevailed in Holland a century ago, when single roots sold for 2000 to 5000 florins, and which, as E. D. Mansfield remarked, in his address before the Cincinnati Horticultural Society, "was nearly as strong as the Lind Mania now in New-York;" and yet a very large portion of the horticultural public in these States are almost continually and as thoroughly deceived, though on a smaller scale—a long list of these impositions might be given. The remedies are, an increase of general information, and caution.

FRUITS CHANGED BY CLIMATE.—No deterioration of fruits appears to have been greater than in American peaches, taken to England. Of fifty sorts, from the middle and western States, tested at the great Chiswick garden, all but two were pronounced "worthless."

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Brief Hints for the Season.

There are a few cultivators of fruit, scattered through the country, who excel all their neighbors in the success which always attends their labors. Every thing they set out, grows and everything that grows, advances with vigor and health. There seems to be a sort of *good luck* attending all that their hands touch. Now, it happens that their good luck is the fruit of diligence —their success is the result of labor—real, hard-handed, well applied labor. When a tree is transplanted, every part of the work is done well, nothing is slighted; the soil into which it is set is well and deeply enriched; and, most of all, their trees are not neglected afterwards, but constant, clean, and enriching cultivation, keep sup what is well begun.

Now we have noticed that one great reason why all this essential labor is slightly and badly performed by the unsuccessful cultivator, is that he crowds too much into a small portion of time. He undertakes to do in one day that which would require a week to perform properly; and he omits some essential preparations till the moment arrives when it is too late to perform them. During the present period there are a number of important particulars which if now attended to, would lessen the pressure of business when spring opens, and contribute greatly to success.

If trees are to be set out, a good quantity of the necessary enriching materials are to be procured and deposited where wanted; the place for each tree may be marked, and old manure, or still better, a good compost, deposited in heaps in sufficient quantity. We have known apple trees to thrive admirably, by first digging large holes, say seven feet across, and then mixing well by means of an iron rake a quarter part of old rich manure with the soil as it was returned to the hole—leaving enough space at the center to place the roots without bringing them into actual contact with the manure. Trees so treated, with good subsequent care, have borne a bushel each the fifth year.

A most excellent manure for fruit trees, whether newly transplanted or otherwise, consists of about two-thirds swamp muck, and one third of stable manure, with a small portion of ashes, leached or otherwise. As this requires some time for working over, the materials should be timely collected; and in some instances it may be done now to advantage.

Trees which are of feeble growth have been immediately restored to vigor by spreading a thick coating of old manure (or new, if old could not be had) in a broad circular space round the tree, during winter, with a portion of old ashes, and then spading in early in spring. The spading should be *as deep as practicable*, without injuring the roots. Three or four inches of manure, for apple, pears, and peaches, where the soil was poor, have been of great use. The quantity of ashes should be just enough to cover the surface, say the tenth of an inch thick, which will be about a bushel or two for a large tree, and a half peck to a peck for a small tree.

In top-dressing and spading in manure, one point must be well remembered. The roots spread out from the tree far and wide, generally much further than the length of the trunk and branches put together, and the manure should be spread as far as the roots extend; it will do but little good to confine the application to a small circle just round the foot of the trunk, as too many do, where a tenth part of the roots cannot procure a supply.

Very extensive experience within a few years has proved the eminent advantages of *mulching* young fruit trees, which is commonly done during the early part or middle of summer as the drouth of the season may rerequire. But it is often neglected, or if not neglected, is very sparingly executed, simply for the reason that the material is not to be had at the time wanted. Every cultivator, therefore, who intends to set out or already has, small trees, should if possible reserve or procure in time a copious supply of coarse litter, sufficient to form a dressing around every tree, at least half a foot thick. Much is often thrown aside or wasted in winter, which would be exactly suited for this purpose.

A constant improvement of his selection is an important object with every cultivator of the best fruit. Some new varieties prove worthy of adoption, and a greater number of old ones are found by trial to be particularly suited to certain localities and unfitted for others. Hence, some change of his trees by re-grafting must be be going on in every good cultivator's orchard and garden. The kinds must be sought and grafts procured in winter, and not left till spring when the work would be more likely to be omitted altogether.

There are a number of operations either necessarily to be performed now, or which may be done to great advantage in order to lessen the pressure of spring labors, among which may be enumerated the following: Pruning orchards; shortening-in peach trees; pruning harhardy grapes; clearing off the caterpillar eggs from the small shoots of apple and other trees; making labels for marking trees, and thus preventing mistakes in names; and making the various fixtures for gardening purposes, as figured and described in the first number of last year's Cultivator.

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Hovey's Magazine.

We copy from a late number of Hovey's Magazine, the following interesting scraps, which will doubtless prove acceptable to our readers as well as exhibit the value of this pioneer journal of horticulture, now in its sixteenth year:—

Large Nectarines.—Under the pomological head it is stated that a basket of the *Lewis Nectarine* was exhibited at the Hall of the Massachusetts Horticultural Society, from the grounds of S. H. Perkins of Brook line, the *average* size of which was about *eight inches* in circumference. A few were about nine inches, or as large as an Early Crawford peach.

McLaughlin Plum.—This new variety which originated in Maine, and which has already been very highly commended, bore on the grounds of the editor the past season. He states it to be "the only variety which can claim an equality with the Green Gage," and adds, "we shall be much mistaken if it does not become one of the most popular of all plums." In form, color, and quality, it much resembles the genuine Green Gage, but is much larger in size.

The "Rough and Ready" Apple.—This is a fine, pleasant and refreshing, but not rich summer apple, of a greenish yellow color, beginning to ripen soon after the Early Harvest, and continuing for several weeks. It has already been described as a new variety under the above name in the Genesee Farmer. It has been cultivated in Ontario and some other counties of westen New York, to some extent, for the past twenty or thirty years. It would be desirable to know its origin and original name, as the one here given is not pomological, neither is it appropriate, the fruit being remarkably *smooth*.

Salt for the Curculio.—A communication from C. Goodrich of Burlington Vt. gives the following experiments:—Flower pots were filled with garden soil, on which a layer of fine salt, a quarter of an inch thick was deposited. On this bed of salt were laid punctured plums containing eggs of the curculio. The grubs came out of the plums, passed down through the salt into the soil, from which perfect curculios emerged some weeks afterwards. The same result took place when fresh air-slacked lime was substituted for salt, and where soil alone was used. The pots being exposed to the weather, the salt was soon washed into the soil, but there was no difference in the appearance of all the insects.

Bearing Trees for sale at Nurseries.—The following passage occurs in a description of Hovey's nursery, in the notes of an English traveller:—"I was not aware that the method of Mr. Rivers was adopted in this country, which I find is the case here, viz: that of keeping fruit trees, especially pears, in a prepared state, fit for removal at almost any age, with a certainty of bearing a crop of fruit the same season. This is effected by lifting the trees every fall, by which they form a large mass of fibrous roots close to the stem, and they may be carried to any distance, with the sure prospect of bearing fruit the following season, if planted in the autumn. I believe this is the only nursery in America where this method is practiced. But in my opinion it is as profitless a method here as in England—from the same cause—that few gentlemen fully consider the value of a few years gained in their life-time, which is the case by planting a handsome established tree in the fall, and gathering a crop the following summer. But such trees cost more money, "aye, there's the rub." They will rather buy trees one year from the bud, at a low rate, than pay two or three dollars each for trees in a fruit-bearing state. These remarks are not directed to those planting *orchards*, but to those with small grounds and large means.

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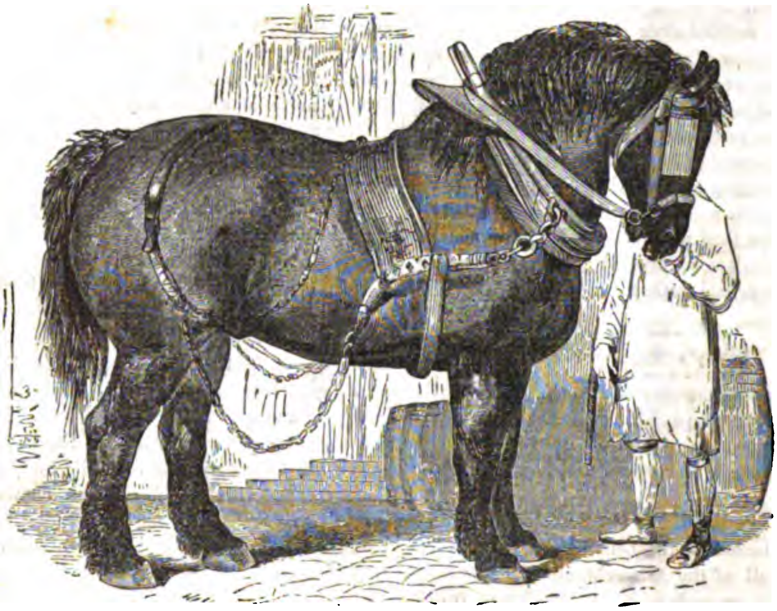
Canker or Decay.

A correspondent at Abingdon, Md., writes as follows: "I have near my house some forest trees, which have been barked; and where so injured, are decaying. Wishing to save them, I looked up information on the subject, and found in Forsyth the following directions—for which he received a high premium from Parliament.

"Cut all the decayed parts, smooth the surface, and apply the following composition:—Take 1 bushel of fresh cow-dung, half a bushel of old lime, half a bushel of wood ashes, and a sixteenth of a bushel of sand—the last three articles to be first sifted: work and beat together till smooth—or by adding urine and soap suds, the mixture may be made liquid, so as to be applied with a brush. The mixture being smoothly applied over the wound, dredge on dry ashes, mixed with one-sixth part of the ashes of burnt bones—repeating the dredging every half hour, till all moisture is absorbed—rubbing with the hand till the plaster becomes a dry smooth surface. Will you please say whether you know anything of this method of averting decay? Would not anything that would exclude the air do as well as this mixture?"

The disease termed by English writers *canker*, a sort of gangrene of the bark and wood, does not appear to prevail to much extent here, and consequently we have not proved to much extent the efficacy of remedies. There is no doubt that the above mentioned treatment is one of the very best for anything of the kind which may be of such a nature as to extend or spread. But for *simple decay* caused by bruises, the *shellac solution* would undoubtedly be all that the case would require. We have seen old apple and pear trees, the trunks of which had contained considerable decayed portions, very successfully treated by merely cutting out those portions, and giving the freshly cut surfaces a good varnish of shellac. This varnish is made by simply dissolving gum shellac in alcohol, so as to be of the consistence of paint—keeping it in a large-mouthed bottle, well corked to prevent evaporation; and if the cork is made to form the handle of a brush, the brush being within the bottle, it is at all times ready for use.



THE ENGLISH DRAFT-HORSE.

English Draft-Horse.

The breeds of horses used in Britain for heavy draft, are the Lincolnshire, the Suffolk, and the Clydesdale. The largest of these is the Lincolnshire, of which the above cut is a representation. They are usually not less than seventeen hands high, and very heavy in proportion. The Clydesdale and Suffolk are of less bulk, but are more active. Although horses of such size are not required for ordinary purposes, in this country, it is, nevertheless, a fact that the introduction of the English draft-horse has been of considerable advantage in improving our stock. In many instances, a cross from this kind of horse has added greater strength, constitution, and an ability to perform more labor in proportion to the expense of keeping, than our stock had previously possessed. Many of our readers will recollect an English draft-horse called *Sampson*, imported several years since by Mr. Sotham. Some of the best and most powerful work-horses now owned in this vicinity, are the progeny of that horse. They are of compact form, short-jointed, very muscular, and have a rapid and easy walk. They are also hardy, and easily kept in condition. There is a similar stock of horses in Wayne county, N. Y., derived from a horse of the same name as the above, imported by Mr. Robinson, of Palmyra.

At the New-York State Fair at Buffalo, in 1848, a Clydesdale stallion was exhibited, from Toronto, Canada. He was a horse of remarkable activity, for one of so large a size. We are informed that his progeny are highly esteemed as farm-horses. Youatt observes:— "The Clydesdale is a good kind of draft-horse, and particularly for farming business, and in a hilly country. It derives its name from the district on the Clyde in Scotland where it is principally bred. The Clydesdale is larger than the Suffolk, and has a better head, a longer neck, a lighter carcase and deeper [wider] legs; he is strong, hardy, pulling true, and rarely restive."

Low prefers the Clydesdale to the English draft-horse, chiefly on account of its activity. He says, "They step out more freely, and have a more useful action for ordinary labor. The long stride, characteristic of the breed, is partly the result of conformation, and partly of habit and training; but however produced, it adds greatly to the usefulness of the horse, both on the road and in the fields. No such loads are known to be drawn at the same pace, by any horses in the kingdom, as in the single-horse carts of carriers and others in the west of Scotland."

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Robert Bakewell, of Dishley, whose name stands immortalized as the founder of the New Leicester breed of sheep, commenced his career under great disadvantages: it was not on a sudden that he attained his high celebrity as a breeder. It is recorded of him that the first ram he let out he drove to Leicester fair, and obtained only *sixteen shillings* for the use of him for the season. About the year 1760 his rams did not sell for more than two or three guineas each; and for their hire he received from fifteen shillings to one guinea per head: he gradually advanced his prices, and in 1770 he let some of them for twenty-five guineas. It is said no one ever knew the method on which he made his crosses. His great object was to gain the greatest weight of meat upon the smallest quantity of bone, and to combine this with symmetry of form, early maturity, fine quality of flesh, and a great propensity to fatten. He said, "You may stick a patch on a sheep anywhere." He proceeded exactly on the same principle in his breed of sheep as cattle; viz: the fattening in the most valuable parts of the body, and on the least quantity of food.—*Eng. paper.*

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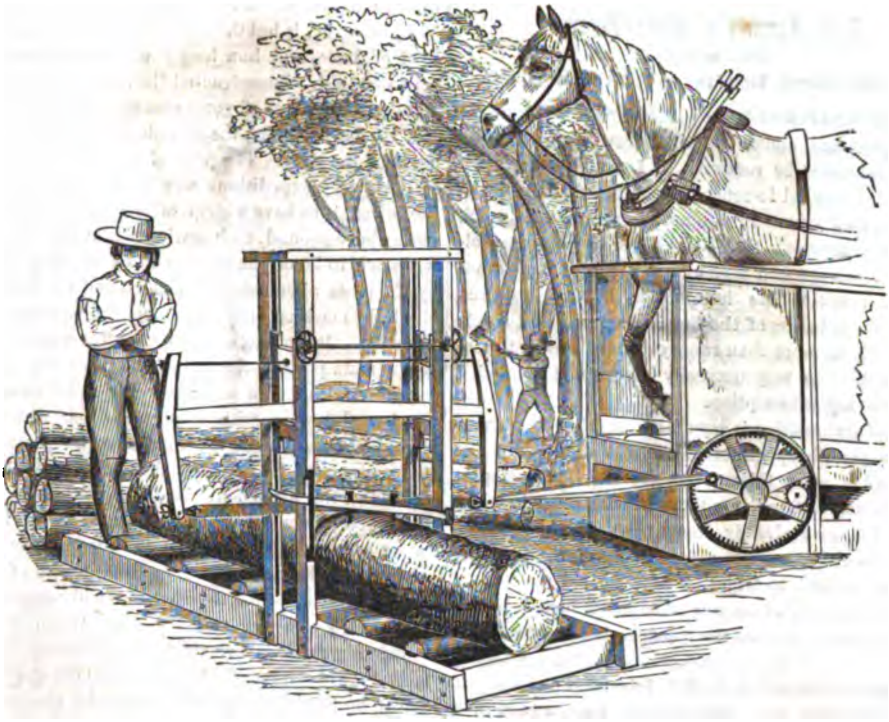
Feeding.—Always be regular and systematic in feeding your stock. Regularity is the best balance wheel of Agricultural enterprise; derange this, and the machine "runs down." Stated hours and specified quantities—graduated according to circumstances, should invariably be observed. "Neither too little nor too much, too often nor too seldom," this is the true policy. The coarest fodder should be fed out in mid-winter. Animals have then sharp appetites, and will eat, what would be rejected at other times. In moderate weather, stock may be fed in yards.



CROSS-CUT SAW-MILL AND HORSE-POWER.

Cross-cut Saw-Mill and Horse-Power.

The above cut represents a simple and effective apparatus for sawing wood, cutting off logs, and cutting timber into various forms, by means of horse power. It is manufactured by Messrs. Emery & Co., of this city, and was exhibited by them at the last State fair. The arrangement is very simple, as it is only necessary to affix a strong wrist, or crank-pin in one of the arms of the large converge wheel, (as shown,) and attaching a connecting rod or pitman to the saw itself. or to a light frame, in which the saw is sometimes strained. If the saw is strained, it may be quite light—about three inches wide and five or six feet long. If it is not strained, it should be stout and strong, and six or eight inches wide, with teeth filed to cut with the drawing stroke, so as to avoid the liability of breaking the saw. The motion as given with the power above represented, (about sixty revolutions per minute,) is found sufficient without any extra gearing or expense.

Mr. P. B. Haven, of Sangerfield, N. Y., who has had one of these machines in use the past season, states that two men with a two-horse power, without any change of horses, can readily work up from ten to fourteen cords of hard wood, into lengths of eighteen inches, in a day, and that he has cut off a solid hard wood log, two feet through, in two minutes.

The ease and facility with which this apparatus can be made to perform what has heretofore been a laborious and tedious operation, is another economical application of the power of horses in lieu of manual labor, which deserves the attention of farmers in the lumbering districts, and all those who have wood and timber to be prepared for market or for use. The arrangement of the machinery is so simple, that it can be put together by any mechanic. The cost of a saw is about one dollar per foot in length; the cost of a one-horse power, which is sufficient for working the saw, is $80—that for a two-horse power which is better calculated for threshing, &c., is $110. The expense of the frame or rigging, will vary from five to twenty dollars—making the whole cost of the apparatus, for a one-horse power, from $90 to $105, and that for a two-horse power $120 to $185. For further particulars inquire of Messrs. Emery & Co., Agricultural Warehouse, Albany.

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Breeding Stock.—I seriously tell you that without judgment, without constant application, without great research into the proper characteristic traits of breed and formation of animals, we shall never come to anything satisfactory: I consider *character* the main link in the whole chain of breeding; for without character you have nothing to guide you. Then comes the *touch* or *handle*—this is very essential; and the color of a beast is not to be neglected—it must be in character according to their description. Now there are various kinds of beasts which uniformly support a character in themselves: and I may say the same of sheep. I am not disposed to flatter one breed or disparage another, for I really do think they are all useful in their separate localities.—*Lecture before an English Farmers' Club.*

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Composts.—Lime is a substance which it is an error to use with composts in which we have farm-yard manure. It is equally an error to mix lime with any compound rich in ammonia. The tendency of lime, in all composts, is to promote decomposition and to waste nitrogen, which escapes, by union with hydrogen under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring substances.—*Morton's Practical Agriculture*

The Farmer's Note-Book.

Agricultural Reading—Wire Fence.

Eds. Cultivator—I became a subscriber for your paper one year ago, and as the time drew nigh when my subscription must be renewed, if I would take it the next year, I was led to reflect on the benefit it had been to me the past year. It did not, however, take much reflection to ascertain that I had never expended a dollar since I commenced farming, so much to my advantage and profit. The information I have acquired through the columns of the Cultivator, on but a single point, has been more than twenty dollars benefit to me, and from this you may naturally infer that I concluded to continue my subscription.

Agricultural reading is especially useful to the farmer in two ways: First, it informs him of what he does not know, and of many things, too, that it is quite important he should be familiar with. Second, it reminds him of what he does already know, but much of which, through neglect, carelessness, inattention, or other causes, he is liable to forget.

The information which was of so much benefit to me, refered to above, was on the construction of wire fence. In consequence of the lateness of last spring, my fodder became quite exhausted, so that I found it necessary to divide an 18 acre field, that I might have a part of it for pasture, and the remainder for hay. For this purpose there had to be made a partition fence of about 52 rods, which for a common stake or worm fence would require about 800 rails, besides the stakes. This to me, was quite a consideration, as the timber, which is of a very indifferent quality, stands where it is rocky and steep, and to add to the difficulty, I could find no one that was willing to undertake the job of making the rails under such circumstances.

This was my situation when an article on the construction of wire fence appeared in the pages of "The Cultivator" by one of your correspondents, (I believe A. B.,) in which that kind of fence was much commended, with instructions on the construction of it, cost, &c. I was then just in the mood to fall in with something of the kind, in order to evade the expense and labor of a rail fence. I soon concluded to try the wire at all hazards. While some of my neighbors would dissuade me from it, others would laugh at the idea. They, however, did not feel the importance of having that field divided as I did, and so I went to work, and had the fence completed in a few days, and my horses and cattle put in to pasture, not by the way, without some misgivings, lest they might cross over the wires and save me the trouble of mowing the other part of the field. But this did not prove to be the case. They were confined on that side of the fence where first put, till after harvest, when they were turned in on the other for some weeks. I then opened a gap at one end of the wire fence, so that the beasts could go on either side of it at pleasure. This gap I have shut, by times, and pastured which field I wished to, and although our horses are in the habit of rubbing down stake fences, and getting out, and frequently did so the last summer, though the fences were good, yet with the exception of a few of the staples that fasten the wires being drawn out, the wire fence has sustained no other injury. This, however, is but the experience of one season in this kind of fence, and how long it will remain effectual, is yet to be told. I constructed the fence after the manner laid down by some of your correspondents—using wire No. 10, and fastening the strands to the posts by staples made of the wire. The posts should be large, and well set. A very expeditious way of marking the posts for the wires, is to have a strip of board the height of the posts above ground, with marks on it at the distances the wires are to be on the posts, and by standing it upright by the posts when set, they can be laid off with keel or chalk, by marking on the post opposite to every mark on the strip. In putting on the wire, after securing one end to the main posts at the end of the fence, let one person take the roll of wire and unwind it as he walks, while another following with staples and hammer in hand, should lay the wire to the marks on the posts, striking in the staples. In this way they proceed to the other end, when the wire should be drawn as tight by the hand as possible; then by attaching a strainer, which in operating may be laid against the outer face of the end post, where it can be turned so as to strain a wire of even 100 rods in length, so that its vibrations will compare in tone to the cord of a well tuned violin. When the wire is sufficiently tight, before attempting to fasten the end attached to the strainer to the post, let all the staples be now driven up firmly on the wire, when the strainer may be detached, or so slackened as to be shifted around the post without any danger of the wire slipping. All that is then necessary to secure the wire after it is bent around three squares of the post, is to drive a few of the staples down on it. The wire should be only partly annealed, as otherwise it is so liable to be frequently bent as to be troublesome in putting up, and is not so substantial when on the fence.

When the posts are set, and before putting on the wire, turn a furrow with the plow on each side, throwing it as close up to the posts as possible, and then by running another, and throwing it with a shovel between the other two, and in range with the posts, will make a ridge so high as to require one strand of wire less, and prevent the frost from reaching the bottom of the posts, and also put the fence in a better position for resisting any attempt by horses or cattle. to break through it. James H. Alexander. *Near Lewiston, Pa.*

Harvesting Machines.

Eds. Cultivator—Noticing a wish that some of your western correspondents would write you about harvesting machines, the following is submitted. There is now in the west about thirty different patents for harvesting and reaping machines. Some of them cut the grain close to the ground—others only cutting off the heads of the grain, with a few inches of straw. The first kind go, generally, under the head of reapers; the latter under the name of harvesters. Of the reapers, McCormick's is the most generally used of any known to me; while of the latter, Esterly's Harvester seems to take the lead.

McCormick's machine requires four horses to work it, one person to drive, one to rake off, and five persons to bind up the bundles. It cuts, in good grain, when well driven, about twelve acres a day, and if the grain stands up well, will cut it better and cleaner than it can be done with a cradle; if the grain is lodged or crinkled down, it does not do so good a business. It cuts by means of two knives or sickles, one of which is fast, and the other moves backwards and forwards over it. The grain is brought on the knives by means of revolving arms. You can hire the grain put into shocks in this neighborhood, with one of these machines, for $1,25 cts an acre, which is what it costs with a cradle; so that if a person has to hire it done with a machine, it is no cheaper than to do it with the cradle. These machines cost, I believe, $125. If a person has one of them himself, he can do it cheaper per acre than the price given here, while he is enabled to get his harvest done in a much shorter time, than if he depended on the cradle. Esterly's Harvesters cost $300. They require four horses on the machine, and two teams and wagons besides, to get the heads out of the way and stack them. They cut only the heads and six inches of straw, and the machine carries these into a wagon that drives along side of it. One wagon is filled while another is unloading. It requires six men to work them to advantage, and this force will cut and stack from 15 to 20 acres in a day, if the grain stands up well, and the machine is a good one. It is a valuable labor saving machine, where it is no object to save the straw.

The charge for this machine is $1,25 an acre for cutting and stacking. It is not worth as much to thrash the grain cut with these machines, as that which is cut with the others, or with the cradle. There being nothing but the heads to thrash, they run through the machine much faster than when there is a quantity of straw attached to them.

These machines are well adapted to our smooth, level prairies, and by means of them a farmer is enabled to get through a large harvest in a much quicker time than he could without them; and where he owns the machine, at a less expense. Here, labor in the harvest season, is scarce and high, and consequently these machines, which substitute the labor of horses for that of men, are in demand. Townsend Green. *Waupun, Fond Du La County, Wisconsin.*

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Intense Freezing.

At 32° of Fahrenheit, water freezes; but the ice which forms even when the temperature is 20° lower, is unfit to be sent to a warm climate. A gentleman who had much experience with ice, said: "I want mine to be sawed out, taken up, and exposed for a night or two when the mercury is at zero, before it is packed away." Why? Because by this exposure, it becomes many degrees colder and will bear many degrees more of heat before it melts.

Housewives after dressing their poultry, freeze them, and pack them in snow, but too often without considering whether the meat is all frozen hard as a brick, or only hardened a little on the outside. Neither do they always consider whether the snow is as cold as it can be; for though snow is snow, and nothing else, yet it may be intensely cold, or only cold enough to keep from melting—a difference in temperature of 30° or 40°. The first condition may be found of a keen, cold morning, and the latter condition of a pleasant winter's afternoon. The old saying, to make hay while the sun shines, is not more appropriate than to pack poultry when it is intensely cold, so that it may bear a January, or even a February thaw. X.

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Preparation of Bones for Manure.

A great obstacle to the use of bones as manure, in this country, has heretofore been the expense of preparing them. The modes usually adopted, have been to crush them in mills designed for the purpose, or to mix them with sulphuric acid. Latterly the process of pulverising by steam has been resorted to in Britain, and where large quantities are to be prepared, this plan may be more economical than either of the others named. But we cannot see why bones may not be more cheaply pulverized by *fermentation*. In a fresh state, they contain a large per centage of nitrogen, which under favorable circumstances, causes them to undergo a strong fermentation. We have known a few instances of their being mixed with unleached wood-ashes, in a heap, with a covering of muck to absorb the gases which might be evolved: the mass soon began to heat, and by being turned over a few times, the bones became sufficiently reduced for use as manure. A writer in the *North British Agriculturist* gives an account of a mode adopted by him for reducing bones which is worthy of of notice. He says:—

> "A quantity of bones, in a crushed state, was mixed with an equal bulk of common sand, and well watered; the whole was then covered over with a coating of coal ashes, about 6 inches thick; this was done to prevent as much as possible the escape of ammonia. In a few days after I found, however, that the moistened bones began to generate intense heat, which soon brought on putrefaction. The size of the heap next showed to have lessened considerably, and on being examined into the bones were found to have disappeared, save a small portion of the outside; even these were corroded from the effects produced by internal decomposition. In fine, the appearance of the heap was changed to a blue mouldy, gelatinous substance, which, if touched with the back of a spade, or even rubbed between the hands, could be reduced to a fine powdery texture."

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Agricultural Papers.

Eds. Cultivator—It is a fact that cannot be disputed and that no person of ordinary observation will attempt to dispute, that in districts where agricultural papers have the widest circulation, the inhabitants, as a general thing, are the most intelligent, and their farms give unmistakable evidence of the greatest productiveness.

The above sentiment has received a full confirmation in our minds by a late visit to a respectable farmer who "began the world" in the capacity of a hired man to "a very good farmer of those days." His history from that time would, if permitted to be fairly written, read thus: From the day that he entered into the service of his employer, until his contract was ended, he was devoted to his interests from whom he expected the reward of labor. Of course, he was none of those laborers who, like too many of the present day, work well while their employer does, and who, if he is called away, conclude they "won't fret,"—night and their wages will come just as well if they take it easy. Business was safe and progressive with him at all times, and under all circumstances; of course, he always would command a good place and goods wages. If the times were hard, he had employment and the reward, which the exigencies of the times, whether "good or bad," would bring.

In due time he purchased a piece of land, to the cultivation of which he directed his energies, and after a while another and yet another accession was made to his territory, until his domain became as ample as reasonable desires could demand.

When JUDGE BUEL started "THE CULTIVATOR, *to improve the mind and the soil*," a service it has never ceased to perform, agricultural papers were not so common as they are now. They were comparatively few in number and limited in circulation. Consequently agricultural reading was not found at every fire-side. As these papers sprung forth, however, too many looked upon them as "strange innovations" and "sad humbuggery," something that "fellows wrote that could write, but that they did *not know nothing about*." The farmer under consideration, was not of this class however, for he saw that there was much to learn, in the management of the farm as well as in other professions, to insure the highest success, and if this knowledge came to him in print it furnished no particular objection in his mind to its utility. He of course became a subscriber to number one volume one of Buel's Cultivator, and if any of the readers of this paper or the doubters of the benefit of agricultural papers would visit him now, they would find all the volumes of the work, up to 1851, in his library. They would also, as they looked upon his fields of successful labor and upon his convenient and tasteful barns, his large flocks and antic herds, scattered over the hills around him, hear him quote this work, as the source from which he had gathered such and such information upon the various subjects on which it treats, and the benefits derived threfrom. Nor have his labors ended here. He has induced many others, by telling them through his improved system of farming, as well as orally, of the value of the work, to become subscribers for it, and thereby rendered them an essential service.

Now, when a hue and cry is raised, as it sometimes is, even in this progressive day, against agricultural papers and agricultural knowledge, acquired from books, who shall we believe? Shall it be men like this, born and brought up farmers, and who yet, in spite of all the experience that labor and personal observation can bring, call for more knowledge at the same fountain for long successive years, so well satisfied with the present amount it issues, as to rely upon the same source for more? Men who go on profiting by what they read, as this farmer says he has done, and as his neighbors give assurance of doing by entering upon the same path he is pursuing? Or shall it be those restless, unsatisfied spirits, who never read, unless it be some newspaper story invented to add folly to the nonsense of fools; and who look upon all improvements as useless innovations, satisfied by doing as their fathers did, with out one-half the prospect, through the failure in the soil from the skinning system, of success? Which man, we say, shall we believe, for when two so great opposites are found, one must approach much nearer to the right than the other? We have no misgiving, when we say, that the voice of the people will come up in favor of the man who has taken for a long course of years the agricultural paper. Admitting the fact, there is no question of their general utility, for if they are a benefit to one farmer, they *may become* so to *every one*. Hence the inference is that every farmer should take and read at least one agricultural paper, such a one as is purely and wholly devoted to the subject, and can be conveniently kept in preservation.

Now that not one-half—probably not one-tenth of the farmers take such a publication, even in districts where they are most accessible, we believe no one will doubt. If they do, the post-office will probably teach them their error. But who shall stir up the people *to their own interest* by urging them up to the work? Publishers and editors cannot do it, for we expect them to be devoting their energies to make the paper as good as possible, therefore they have enough to do. Traveling agents cannot do it effectually, for they are most of the time passing in regions where they are unknown, and so numerous are agents and the characters of the papers for which they operate, that many look upon the whole mass with suspicion, and get rid of them with a frown and a *no* as soon as possible.

The work, then, of getting up these subscribers and extending the progress of truth and improvement, must fall upon individuals in their several towns and neighborhoods. It is not a hard service. Men often meet in their daily operations and as often speak of the successes and disappointments in their ordinary business. How natural at such times to tell of the knowledge gained, and where it was found, and call the attention of others to the particular source. In this way the circulation of agricultural papers may be greatly increased and the cause they advocate receive many a new and successful impulse. WM. BACON. *Richmond, Mass., Dec.* 28.

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Pitching Hay by Horse-power.

EDS. CULTIVATOR—I have used a horse pitchfork similar to that represented by a correspondent of the Cultivator for 1848, page 122. It operates as well as there recommended. My object in referring to it here, is to furnish occasion to add, that I have not only succeeded as well as I expected in the barn, but also in pitching on stacks. My method of arranging the machinery for pitching on stacks, is as follows:—

I procured three poles, and chained the small ends together in a proper manner, and raised them in the form of shears, (with a pully suspended at the top,) over the spot where I wanted the stack. The rope to which the fork is attached, is put over the pully before the poles are raised; then under another pully, in the butend of one of the poles, about two feet from the ground. A stake is then driven into the ground at the foot of this pole, to prevent it from being pulled out. Hitch a horse to the rope, and all is ready.

Two of the poles should be about 33 feet long, and the other 89 feet. The object in having one poll longer than the others is this: When the fork is stuck in the load, and the horse is pulling on the rope, the poles are likely to be pulled towards the load, if they are of equal length; but if one pole is a few feet longer than the others, the load can be driven between the stack and the long pole, and the pole acting as a brace, will make it impossible to pull the three over by pitching. The poles should be as small as can be had of sufficient length, and of some light timber. Mine are bass-wood, about five inches in diameter at the but. One man can handle them, one at a time, and two men can raise them. P. P. P. *Sylvania, Bradford Co. Pa.*

The Olk Gifford Morgan.

Eds. Cultivator—The friends of this fine horse, the purest blooded stallion of the present generation of the noble Morgans, will have noticed with regret the account of his death, which occurred at this place on the 30th of October last, from inflammation of the intestines. He was 24 years old, but to the last retained and exhibited that graceful form, and splendidly energetic and powerful action for which he was so justly and so widely celebrated. At the request of many gentlemen, he was ridden to the place of the recent sale of the Stickney stock, in the neighboring town of Westminister, Vt., and the distinguished breeders from so many of the northern and middle states, who were there assembled, will well recollect the admiring ecomiums which were there bestowed on him on account of his youthful appearance, and unfailing spirit. He was owned at the time of his death by the same company of twenty gentlemen, by whom he was purchased for $2000, in the fall of 1847.

It is gratifying to know that measures were seasonably taken to secure in the greatest purity, the invaluable qualities of this stock, in which many of the fastest trotting Morgan horses of the present day are to be found, by obtaining, without regard to trouble or expense, the highest blooded Morgan mares which were existing. From these mares and the Gifford Morgan, stock of as high blood as his own, has been bred, and is now owned here. From this stock the Morgan horses will continue to be propagated.

I find it necessary again to remind gentlemen, who are desirous of providing themselves with the true Morgan stock for the purposes of breeding, of the need of using the greatest circumspection to secure themselves against the designs of those unscrupulous persons who are aiming to palm off their horses as genuine, under color of fictitious pedigrees. Frederick A. Wier. *Walpole, N. H., Dec.* 16, 1850.

Notes for the Season.

The early part of December 1850, was remarkable for mildness. The first snow of the month, fell on the 6th upon mud, to the depth of one inch. On the night of the 6th, hail fell about three inches; but in consequence of the wetness of the earth, it melted so that only about one inch remained. On the night of the 7th rain, which froze after falling, and hail, fell to the depth of two inches. On the morning of the 8th, the trees were beautifully encased with ice, which remained on during the day—11th and 12th, snow fell 8¼ inches—14th, mercury at six o'clock, A. M., 2° below 0; at sunrise at 0—16th, snow 1¼ inch—17th, rain during last night, two inches—during the day a fall of three inches of snow, which, freezing into the previous snow, moistened by the rain, makes fine sleighing—19th, snow from S.E. fell 2¾ inches—20th, snow from N.W. 1¼ inches—sun sets very pleasant—22d, commences snowing at four o'clock 10 minutes, from S.W. The clouds through the day had alternately indicated snow and rain; storms through the night, rain and hail; principally the latter, which continues to fall until noon the 23d, being furiously driven for the last 12 hours by a N.E. wind,—changes to snow, which continues to fall until 7 o'clock, P. M.,—prevailing wind since noon, N.W. The depth of hail, which fell in this storm was four inches, which makes an unpleasant crust in the woods and open fields. In many places it is blown together so compactly, as to bear a horse. The quantity of snow that fell in the same storm was nine inches, which is considerably though not badly drifted—24th, a very cold morning; mercury at 6 A. M., 9½ below 0; at sunrise 9° below 0; at 9 A. M., 6° below 0; at 8 P. M., 4° above 0—25th, snow 2 inches—28th and 29th, 6½ inches—31st, at sunrise, the mercury stood at 10° below 0—which makes it decidedly the coldest morning in the season.

The number of days in the month in which there has been more or less storm, is 15—leaving days without storm 16. The quantity of snow and hail which fell during the month, was 37 inches, of which now remains after deducting what melted as it fell in consequence of the wetness of the earth, and what has melted by rains during storms, leaves the present amount 25 inches. The number of days entirely cloudy, during the month was 10—of entire clearness four. W. Bacon. *Richmond, Mass., Jan.* 8, 1851.

Premium Cows—Butter, &c.

Wm. S. Lincoln received the premium of the Worcester county (Mass.) Ag. Society in 1850, for the "best three cows from a stock of not less than five." The quantity of butter made from each of these three cows during the first nine days of June, was as follows: No. 1, 17 lbs. 12 oz.; No. 2, 9 lbs. 4 oz.; No. 8, 10 lbs. 6 oz. The quantity made from the same cows during the first nine days of September, was—No. 1, 12 lbs. 12 oz.; No. 2, 4 lbs. 4 oz.; No. 3, 6 lbs. 6 oz.

John N. Whitney received the premium for the "two best cows kept with a stock of not less than five." In the first nine days of June, the butter made from one of these cows, was 15 lbs. 8 oz.; that from the other 17 lbs. In the first nine days of September, one of the cows gave 10 lbs. butter, the other 12 lbs. The feed was pasture only.

Winter Mangement of Cows.—Mr. Lincoln gives the following in relation to the management of his cows in winter:

"They are stabled, are fed at regular hours, have a good bedding at night, are cleaned every morning with the *curry-comb* instead of the *card*, are kept stabled except for two or three hours in the middle of the day, if fair weather—if stormy they are not out, except a sufficient time, morning, noon and evening, to allow them to drink. Milch cows should be kept *warm* and *dry*. The hay given to the cows is of ordinary quality, and each cow is fed with from one to two pecks of carrots per day. The butter made in winter, by the aid of carrots, is fully equal in *color* and *sweetness* to that made in June. The milking and care of my stock, is attended to by myself unless prevented by sickness or absence—milking throughout the year uniformly at six o'clock in the morning and six in the evening."

Mode of making Butter.—"Except in the extremes of summer and winter, the milk is kept on the ground floor of the house, in tin pans; remains from 36 to 48 hours, when the cream is taken off and put in large stone pots; water is placed in the churn and stands over night; the cream is churned slowly but steadily; the butter is washed in cold spring water; the butter-milk is worked out, and the salt worked in—stands 24 hours when it is again worked and lumped. We use a 'butter worker,' and generally add three-fourths of an ounce of salt to a pound of butter. We think the butter is firmer, more waxy and even, if the churning occupies from 45 to 60 minutes, than when brought in less time."

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Agricultural School.

Governor Hunt, in his message to the Legislature of this State, calls attention to the importance of establishing an Agricultural School and Experimental Farm. He says:—

> It cannot be doubted that an institution of the character proposed would promote the dissemination of agricultural knowledge and elevate the condition of the people. In its formation I would recommend an additional department for instruction in the mechanic arts. Identified in interest, each imparting strength and vigor to the other, the agricultural and mechanical classes combined may be said to constitute the substantial power and greatness of the commonwealth. The free spirit of our institutions and the incentives to effort in which this country abounds, are peculiarly favorable to the development of inventive genius and rapid advances in the useful arts. Our unparalleled progress may be attributed in no small degree to the successful skill of our Artisans in originating and perfecting the varied improvements which increase the productiveness of labor in most branches of human industry. Yet from the nature of their pursuits and the necessity which subjects them to a life of toil, too many of our youthful mechanics are deprived of those means of intellectual improvement which the State has provided for other professions. The beneficial effects of an Agricultural and Mechanical School will not be limited to the individuals who may participate directly in its privileges. The students graduating from such an institution, elevated in character by moral and intellectual training, and endued with that knowledge of the natural laws and practical sciences which unites manual labor with the highest exercise of the reasoning faculties, will become teachers in their turn, imparting to those around them the light of their own intelligence, and conferring dignity upon the common pursuits of industry by an honorable example fo usefulness in their varied occupations. The elevation of the laboring classes is an object worthy of the highest ambition of the statesman and the patriot. Under our republican system of Government the political power of the State must always reside among the men of industry and toil, whose virtuous energy is their best patrimony. The intelligence which qualifies them for the duties of self-government, affords the only sure guarantee for the perpetuity of our free institutions.

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The Potato Disease.

Eds. Cultivator—In your number for September I brought down the history of the potato disease for the present year, to August 10th. I remarked in that article, that "I anticipated painful results." Painful indeed, they have been. Many fields around me are not worth digging. So uncertain has been the condition of potatoes, that consumers in our city, until quite recently, have been afraid to purchase more than the supply of a day or two at a time. It may be hoped that time has so far purged our fields, that the portion of the crop now sound, will remain so during the winter, if wisely stored.

I. Causes of Increased Severity.

In my last article in your paper, I observed, that the disease is, this year, "more obviously connected with *hot* and *wet* weather, and less with that which is *cold* and *windy*, than in former years." Indeed, I consider that this last cause is what has given the disease this year, its frightful malignity. The effect of it was to cover the herbage of the potato with a white mildew, which not only destroyed the leaves, but also to a considerable extent, the solid stems; and often, also, the seed balls, and the very foot-stalks on which they grew.

The obvious effect of such mildew would be, not only to destroy the elaborating process of the plant, but also to throw into the circulation a mass of half elaborated and poisoned matter, quite sufficient to corrupt the tubers, aside from the influence of the ordinary causes of disease which had been previously operating, as detailed in my last article. That article was closed in the midst of that weather, and before its effects were pointedly seen.

The melon, tomato, corn and other tropicals, bore it without much injury, as it is just what they are liable to in their native regions, especially during the annual "rainy season." But the potato, being a mountain plant, and so accustomed to a cooler, dryer, and purer atmosphere, was well nigh destroyed by it. A friend of mine, who recently spent some time in New-Grenada, says that "the climate around Bogota, where the potato is grown in the greatest perfection, is not warm enough to produce melons and tomatoes in perfection, so that they are usually brought on the backs of mules from the low and hot regions; and that the thermometer does not vary, during any one day, more than five degrees. Frosts, and our high summer heats, are there equally unknown; and the cabbage and pepper live through the whole year, and are, there, biennial plants."

We, by endeavoring to grow the potato in a soil and climate hot beyond its constitutional requirements,—one adapted, during the season of growth, to the melon, tomato, &c., have outraged its capabilities. This, with a failure to renew it frequently from the seed-balls, has brought it to the verge of ruin. Nor should it be forgotten, that in our anxiety to get large crops, and large tubers, we have grown it in too rich a soil, which, taken in connection with the preceding causes, has overworked the excitability of the plant, and made its structure open and vascular, like a hot-bed production. Hence it feels changes, through which, even in this unsteady and ungenial clime, it once passed in comparative safety. I have taken the ground, in my Essay on the Potato Disease, (published in the "Transactions of the State Society for 1847 & 8,) that the potato, in most of its constitutional requirements, ranks, not with tropicals, but with the cereal crops, and the hardy fruits and vegetables of temperate and cool climates. In harmony with this position, the hot and wet weather which gave the finishing impulse to the potato disease this year, rotted the fruit of the plum before it was ripe, and defoliated its branches.

The fruit of the peach was also occasionally injured. Grapes, whether foreign or native, especially where they grew most luxuriantly, were very generally affected, the leaves frequently falling before the fruit was ripe, and the summer's growth, especially in the case of luxuriant grafts, frequently nearly all perishing on account of the immaturity of the wood when the leaves fell. Turneps that mature in the middle of the summer, and winter cabbage, that was cut early in the fall, were both extensively affected by decay. Had this weather occurred a few weeks earlier, it would undoubtedly have resulted in the *rust* of the wheat crop.

II. Other Interesting Facts.

1. *Mowing off the Vines.*—On the 24th of August, soon after the close of my last article, I mowed off the vines on about one-half of an acre which had been planted a little later than my main crop, and where the vines had suffered less from the mildew, than some others. The result was the saving of the tubers almost entirely from the rot. Had I mowed a little earlier, I think they would all have been saved.

2. *Effect of shade.*—The shade of high fences, trees, and hedges, just as in former years, had a very manifest influence in moderating the effect of disease. These protections were on the east and south-east sides of the portions of the crop benefitted. The beneficial results were due obviously to the moderation of the morning heat, after a season of cold chills.

3. *Early and rapid Disease least Injurious.*—My largest plat of potatoes embraced about two acres. The soil was a light gravelly loam,—a fair soil for corn, but too much wanting in vegetable matter to be well adapted to potatoes. Its shape was a parallelogram. Across one end, and including about one quarter of the plat, I applied leached ashes, (mixed with soda ash,) from the soap-makers. One side of this piece was planted with Early Pink-eyes, and the other with Carters. Although the soil was naturally very light and dry, yet the effect of the ashes, in connection with the frequent and heavy rains of the season, was to keep the soil much more moist than that of the remaining portion. On the three quarters of the field, where no ashes was applied, the potatoes of both sorts, died early and most rapidly; and when dug were sound with very few exceptions; although they were small and few. The fatal impression of disease was here made I think, by the ordinary causes, i. e., sudden changes of heat and cold. The suddenness and power of disease here seemed to act like the scythe, in a preceding case, i. e., it cut off communication with the tubers, and so prevented the transmission of morbid matter. On the portion where the ashes was applied, the crop grew stronger, died a slow and lingering death, and in the autumn were scarcely worth digging, so badly were they diseased. It may be asked how the slower death of this richest portion of this plat is consistent with the common, and undoubtedly true doctrine, "that the rankest growth is usually most early and rapidly diseased." I answer, that the moister and therefore cooler position of this portion saved it somewhat from the influence of the ordinary causes of disease that so fatally affected the other portion, and at the same time, the more fatally exposed it to the later impulse of disease, i. e, hot rains. These results of early and rapid disease are also parallel with the experience of former years. See the essay for 1847.

4. *Reported Exemption from Disease.*—In the season of digging potatoes I heard of a large cultivator of potatoes, in a neighboring town, whose crop had escaped disease. Pleased with so grateful intelligence I hastened to the spot. I found about fourteen acres, planted with "western reds," on a very light sandy soil. The crop was indeed sound, with few exceptions, say about one diseased potato to ten hills; but then the owner had to acknowledge that the crop "had been early struck with the rust," as he called it. Certainly the yield was small. The degree of exemption from disease in this case probably resulted from two causes—a high degree of comparative vitality in the sort planted, and the rapid action of disease operating as in my own experience above in the case 3.

III. Hope for the Future.

Admid all this gloom the farmer should not utterly despair. Even with our present feeble varieties for seed it is, to me, highly improbable that the next year will be as bad as the present has been.

Those who keep records of the weather will, I think, justify me in the assertion that, the extreme wetness of the past summer, and the damp and hot state of the atmosphere, much of the time, from July 14th to August 21st, constitute it the most severe season for the potato experienced for many years: at least the most so of any that have occurred since the first appearance of the disease in 1843. Many fields of new soil, such as were well stored with vegetable matter, and were of that simply moist character which past experience has proved most congenial to the potato, have proved so wet, this year, as almost entirely to fail of a crop. The same has been true of clay soils generally.

On the other hand, soils constitutionally very dry have proved amply moist. In view of the constitutional requirements of the potato, and of the peculiarities of the season, peculiarities affecting not the potato alone, but also many other vegetables, I hesitate not to say that had the potato been possessed of all the vigor which it had fifty years ago, it would nevertheless have been diseased this year. C. E. G. *Utica, Dec.* 1, 1850.

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Cattle Show of the Smithfield Club.

The annual show of this association came off at London on the 11th, 12th, and 13th of December last. It exceeded in numbers that of any previous year. There were sixty more entries for cattle, and twenty more pens of sheep, than in 1849. The prizes for fat oxen and steers were chiefly carried by the Herefords and Devons. A Hereford steer two years and ten months old, received the gold medal as the best ox or steer in the show, as well as a prize of £25, and a silver medal to the feeder. He is spoken of as a most beautiful and symmetrical animal, and was sold to a butcher for £68, (about $340.) The gold medal for the best fat cow was awarded to a shorthorn, five years old. The first premium for pigs was awarded to Wm. Fisher Hobbs, for specimens of the Essex breed. One of this lot, which, from having received an injury on the way to the show, was slaughtered, weighed, dressed, 521 pounds. It was seventeen months old. Prince Albert received a second prize for pigs. They were of the Yorkshire breed. The Duke of Wellington was an exhibitor for the first time. He exhibited a curious animal—a fat cow, a cross between the Scotch Highland cow and the Bramah bull. The show was visited by the Queen and most of the royal family. The *Mark-Lane Express*, in speaking of the show observes:

> We believe it will be universally admitted that the exhibition of animals at the show of the Smithfield Club last week was very much superior to any which preceded it; not only was the number of animals greater, but their general character was of a superior order. That a great improvement has taken place in the evenness which the animals show, as compared with those exhibited some years since, is very manifest. The patchiness, so common ten years ago, is now rarely seen in well-bred animals. Some persons are inclined to ascribe this improvement to a change of taste on the part of the feeders, who are no longer partial to the "mountains of tallow" which they formerly seemed to admire. We, however, are not disposed to ascribe any alteration which has taken place to such a cause; we believe that the art of fattening animals has greatly improved, and we are also of opinion that the frame of the animal to which that art is to be applied has itself been rendered more suitable for the purpose through the skill of the breeder, and we are inclined to give credit to the exertions of the Royal Agricultural Society, and other societies of a like description, for having been instrumental in attaining that end through the encouragement afforded to the breeders of live stock. It matters little which particular breed of animal may obtain the superiority as regards the number of prizes awarded to it at any single show, inasmuch as it will be seen that of the two breeds exhibited in the greatest number on these occasions, namely, the Short-horns and Herefords, upon ean avrage of seven or ten years there will be but little variation. A singular circumstance has, however, been pointed out to us by a correspondent, which will be regarded with interest by the respective advocates of the two breeds alluded to. It appears that the Hereford ox belonging to Mr. Heath, to which the gold medal was awarded, is of exactly the same dimensions as the short-horn steer belonging to Earl Hardwicke which obtained the first prize in Class 2; the former being, according to the catalogue, just one year younger than the latter. Thus, then, the Hereford steer of two years and ten months old attained the same bulk which the short-horned reached in three years and ten months. It is true the Hereford ox in question was a most extraordinary animal; but regarding it as such, it shows what the breed is capable of.

ANSWERS TO INQUIRIES.

Kidney-worm in Swine.—J. D., Wisconsin. The presence of kidney-worm may generally be known by the animal appearing weak across the loins, and sometimes by a weakness in one or both hind legs. As soon as these symptoms appear, give the animal corn soaked in lye of wood ashes, or strong soap-suds; at the same time rub the loins with spirits of turpentine. We have heard of arsenic being given for this complaint, but do not know the proper quantity for a dose.

"Native Breeds of Fowls."—S. J. W., Utica. All our domestic poultry, except the turkey, was introduced from the Old Continent. It is not, therefore, proper to say they are "natives" of this country. We presume the expression "native breed," frequently used in reference to fowls, means nothing more than the common "dung-hill" stock, which are of no particular breed, though very good fowls are sometimes found among them.

Sage.—D. B. R., Southeast, N. Y. The Shakers prepare sage for market by first drying it thoroughly, then grinding it in a mill, and then bolting or sifting it. We do not know what kind of mill is used for this purpose. The usual mode of cultivating sage is to sow the seed in a bed, and when the plants are fairly up, transplant them into good ground; setting them in rows two feet apart, and the plants at spaces of ten to twelve inches in the row. The leaves are gathered from time to time, as they reach their full size, and are carefully dried in the shade.

Side-Hill Plow.—P. C., Cavendish, Vt. The side-hill plow which received the premium at the trial of the New York State Ag. Society in June 1850, was Bosworth, Rich & Co's., Troy. Its price is $7. Prouty & Mears, Boston, Ruggles, Nourse & Mason, Worcester, and Eddy & Co., Union Village, Washington county, N. Y., manufacture side-hill plows, the prices of which are from $7 to $9.

Corn-stalk Cutter.—J. C. C., Cornellsville, Pa. One of the best machines we have ever seen for cutting corn-stalks, is Wheeler's. It may be worked either by hand or horse-power, and will cut and mash the largest stalks with great despatch. Its price rigged for horse-power, is $27. It is for sale by Wheeler, Melick & Co., and Emery & Co. of this city.

"Brown Corn."—H. R., Geneva. The "Brown corn" is an eight-rowed variety, of reddish color. It receives its name from a man who cultivated it and brought it into notice, who resided on an island in Winnipissiogee lake, New Hampshire. It is a productive kind, of medium earliness; but we are not aware of any experiments having been made which would show its yield in comparison with other good kinds. It can be had of Joseph Breck & Son, Boston, and might probably be obtained through Emery & Co., of this city.

Kinds of Grass for mucky Land.—H. R. Red-top and Timothy would be about as good varieties as you could sow. Timothy can be obtained in almost all parts of the country. Red-top can be had of Emery & Co., at $1.62½ per bushel, for northern seed, and $1,25 for Jersey and southern.

Egyptian Goose.—S. P. T., Winsboro, S. C. This bird belongs to a different genus from any other goose. Martin observes that it constitutes one of the links between the *Anatidæ* and the *Grallatores* or waders. Its size is less than that of the common goose, and it is chiefly kept on account of the beauty of its plumage and its singular habits. Its Greek name, *Chenalopex*, signifies Fox-goose, indicative of its resemblance to the fox in cunning and vigilance.

Spoke-machine.—L. C., New-Paltz, N. Y. The machine about which you inquire, was invented by Allen Goodman, Dana, Worcester county, Mass. There is one in operation in this city, owned by Mr. Wemple. It appears to be an excellent machine. It takes the spokes in the rough, and brings them out entirely finished, except to be smoothed, which is done by holding them on an emery roller.

Cranberries.—"Subscriber," De-Witt, N. Y. We gave an article in our number for December last, page 403, which comprises the best information we can give you on the points of your inquiry.

Stump-machine.—One of the best machines of this kind which has ever been invented, is Hall's, described in our volume for 1845, p. 27. It is worked by three men and a boy, with a horse. With this force, it will extract any stump. Its cost, rigged with chains, levers, and all apparatus for working, is $800 to $400, according to size. The charge for pulling stumps is 15 to 25 cents each. For particulars address R. Hall, Owego, N. Y.

Mott's Agricultural Furnace.—R. C. G., Randolph county, Ga. The price of this article of the capacity of 40 gallons is $18—for 45 gallons $20. For sale by Emery & Co., Albany.

"Dow's Winter Pippin."—W. A., Canajoharie. We know of no apple by this name.

Gilmore's Apiary.—A letter received from Philadelphia, requesting information in regard to the report of the committee who examined this article at the late State Fair, has been mislaid. If the writer will give us his address, the information called for will be immediately forwarded.

Killing Alders.—W. J. B., Bethmont, N. C. The last of August is considered the best time to cut alders, for the purpose of destroying them. Performed at this season, the operation has generally been successful. More or less will generally sprout the next year, but if the sprouts are bruised off at the same time in the year that the previous cutting was done, the extirpation will be pretty much accomplished.

Tall Oat-grass.—This grass has been tried in some instances in the eastern and middle states. It grows well on loamy or lightish soils, but its quality is not very good, either for pasture or hay. We have not heard of its being cultivated in the southern states.

Chilian or Peruvian Clover.—The plant we have seen under this name, is not "identical with Lucerne." We are not sufficiently acquanted with the former to give an opinion as to its adaptation or value for this country, neither can we tell where the seed can be had.

Gardening Implements.—J. S. M., Drummondville, C. E. A box of gardening implements can be had of Emery & Co., Albany. The price is $16. The same amount of money laid out in a selection of other tools, will bring more value.

Michigan Sod and Subsoil Plow.—J. C., Freehold, N. J. The proprietor of the patent for this plow is Newell French, Rome, N. Y. The plow is for sale by Emery & Co., Albany.

Black-Walnut Lumber.—J. W., Berrien Springs, Mich. We learn that good black walnut planks are worth $30 per thousand, board measure.

NEW PUBLICATIONS.

Harper's New Monthly Magazine.—The number for January 1851, contains many interesting articles, with several handsome engravings—the whole executed in the usual fine style. It is not surprising that this magazine, when we consider its cheapness and high value, should have reached, in the short period of eight months, a circulation of over 50,000. Three dollars a year or twenty-five cents a number, each number containing 144 pages octavo. Harper & Brothers, New York.

Lossing's Pictorial Field-Book of the Revolution.—We have received No. 10 of this beautiful work. Its interest as well as its superior typographical execution, is fully kept up. It ought to be in every family in the United States. Published by Harper & Brothers, New York, at twenty-five cents a number, each number containing forty-eight large octavo pages. The work will be completed in about twenty numbers.

Phrenological Journal.—This publication has been enlarged to quarto size, and in addition to information on the subject of Phrenology, there are departments for Physiology, Mechanics, Educattion, and general Miscellany. The work is beatifully got up, and has numerous illustrations executed in a superior style. It is published monthly by Fowlers & Wells, 131 Nassau street, New York, $1 a year.

Eighth Annual Report of the American Institute.—This is a neatly printed volume of 544 pages, from the press of C. Van Benthuysen. It contains the proceedings of the second Congress of Fruit Growers, (1849,) and several other valuable papers.

The Home Journal.—This delightful journal enters upon the new year in a new and beautiful dress, and shows an increased and wonderful activity on the part of its Editors, in catering for the public taste. It has several new features, which no one but N. P. Willis could sustain; and is altogether unique in its whole tone and character. It cannot fail to have a "great run." Enclose $2, to Morris & Willis, 107 Fulton st., New York, and its Nos. will greet you weekly for the coming year.

"Flax Cotton."

The English papers announce the discovery of a mode of preparing flax for the manufacturer, by which the slow and wasteful process of steeping or rotting is entirely superceded. In connection with this discovery, another of still greater importance has been made, which is thus described by the London *Morning Chronicle*:—"M. Claussen has succeeded in manufacturing the unsteeped flax into various descriptions of material, which possess respectively all the warmth of wool, the softness of cotton, and the glossiness of silk—and which so closely resemble these several fabrics, both to the eye and the touch, that we should neither credit the fact ourselves nor task the faith of our readers by the assertion, had we not before us actual samples of the results produced, exhibiting in one and the same bundle of fibres, the raw flax at one end and the *quasi*-silk or cotton at the other." The same paper further remarks, "that the process employed, like that used in the preliminary preparation of the raw material, is exceedingly simple and inexpensive. The cost of converting the unsteeped flax into cotton, amounts, we understand, to no more than seven sixteenths of a penny per lb."

The difference between the price of flax when thus prepared, and that of raw cotton, is estimated as "from one-third to one-half in favor of the former." Another remarkable fact connected with these discoveries is, that "the same invention which dispenses with the operation of steeping, renders the flax suitable for a process which adapts it to the cotton mill." It is stated that the "flax-cotton" has been tried at Manchester, and the paper before named, thus speaks of the result:—

"The cotton spindles took as kindly to the new material as if it and they had been expressly made for each other. With a very slight alteration in the machinery—which, however, will not required hereafter—it did its work perfectly; and on Saturday night we were shown the fruits of the invention, in the shape of a quantity of rovings' and yarns of unimpeachable quality and color, in a state of perfect readiness for the further processes of weaving and manufacture."

New-York State Agricultural Society.

Annual Meeting.

The Society convened in the Assembly Chamber at 12 o'clock on Wednesday the 15th of January, 1851, the President, E. P. Prentice, Esq., in the chair.

The roll of members having been called, the Secretary of the Society, B. P. Johnson, Esq., read the report of the Executive Committee. The report presents an encouraging view of the operations of the Society for the past year, and flattering prospects for the future.

The report of the Treasurer, Luther Tucker, Esq., was read and accepted. The receipts for the year amount to $15,316 91, of which $10,465 61 were the avails of the State Fair—the disbursements $12,903 84—balance on hand, including silver plate, paid for, for premiums not yet presented, $2,613 07.

Mr. Geddes moved that a committee of three from each judicial district—to be selected by the delegates from each—be appointed to report the names of officers of the society for the year, and to recommend a place for holding the next State Fair, which being agreed to, the committee retired, and at 4 o'clock, P. M., reported the following list of officers for the ensuing year:—

President—JOHN DELAFIELD, of Seneca.

Vice Presidents—William Buel, Monroe; Silas M. Burroughs, Orleans; Lewis G. Morris, Westchester; Anthony Van Bergen, Greene; Augustus L. Clarkson, St. Lawrence; Henry Wager, Oneida; Benjamin Enos, Madison; Ray Tompkins, New York.

Corresponding Secretary—B. P. Johnson.

Recording Secretary—J. McD. McIntyre

Treasurer—Luther Tucker.

Executive Committee—Ambrose Stevens, John B. Burnett, M. G. Warner, Josiah W. Bissell, Benj. B. Kirtland.

These officers were unanimously elected.

The committee recommended Rochester as the place for holding the next fair.

Mr. Pardee, of Wayne, offered a resolution requesting the executive committee to make application to the Patent Office for copies of its reports and for choice seeds, for distribution among the county societies—and to procure a larger than the usual number of copies of the Transactions of the American Institute, for like purposes.—Agreed to.

Mr. L. F. Allen, of Erie, proposed an amendment to the constitution of the Society—providing that the payment of $10 shall secure a life membership, instead of $50 as heretofore.

Mr. Keese, of Essex, seconded the motion.

Gen Viele, of Rensselaer, opposed it.

Mr. Morris, of Westchester, proposed a modification, to the effect that the moneys raised from this source be invested—the income only to be applied to the objects of the society.

This was opposed by Mr. L. F. Allen, and lost.

The question was taken and the proposition was adopted by more than the constitutional two-third vote—8 only voting no.

On motion of Mr. Murray, of Otsego, a committee of three was directed to be appointed to procure, if practicable, a reduction of tolls on draining tile.

The President appointed (the mover declining to be of the committee) Messrs. S. M. Burroughs, Luther Tucker and B. B. Kirtland.

Mr. Nott brought forward the subject of Mr. Comstock's discoveries in regard to the principles of vegetation—and moved that a committee of five be appointed (of which the President should be one) to confer with Mr. C. and report to the succeeding meeting of the Society, or to the Executive Committee—who were to take such action as they might deem necessary.

Mr L. F. Allen sustained the proposition—

And after some remarks from Mr. Beekman in regard to the principle which Mr. Comstock claimed to have discovered, but which Mr. B. thought he had only reduced to successful practice,

The resolution was adopted—and the

President appointed Messrs. Nott, Downing, Van Bergen, L. F. Allen and Prentice, as the committee.

Adjourned to meet at the Agricultural Rooms, to-morrow morning.

Thursday, Jan. 16.

The Society met at the Agricultural Rooms agreeably to adjournment, and after the report of several committees were read, adjourned to meet at the Assembly Chamber at 7 o'clock, P. M. At the time appointed, the President, E. P. Prentice, Esq., called the Society to order, and after the announcement of the awards of premiums, introduced A. J. Downing, Esq., who addressed the Society, in a very able, interesting, and appropriate manner.

At the conclusion of the address, Hon. J. P. Beekman offered a resolution of thanks, accompanied by a request that a copy of the address be furnished for publication.

The retiring President then made some interesting remarks in regard to the financial condition and general prospects of the Society, which were shown to be highly encouraging, after which he introduced the President elect, John Delafield, Esq., who, in a few observations signified his acceptance of the office to which he had been elected.

After some discussion in relation to the establishment of an Agricultural School and Pattern Farm, the Society adjourned.

AWARD OF PREMIUMS.

Butter.—1. Ela Merriam, Leyden, Lewis co,..................$15
2. Joseph Cary, Albany.................................... 10

Special premiums to Nelson Van Ness, Chautauque, and Noah Hitchcock, Jr., Cortland co., for very fine samples.—Vol. Trans.

Roswell L. Colt, Esq., New Jersey, presented a pot of Butter made from the milk of Alderney cows, which was pronounced in flavor and quality superior to any Butter exhibited before the Society; having the peculiar characteristics of the Butter produced from this celebrated breed of dairy animals.

Thanks of the Society and Diploma, were tendered to Mr. Colt for this choice sample of Butter.

Winter Wheat.—1. Wm. Hotchkiss, Jr., Lewiston, Niagara co., 64 bu. per acre,..................................$20
2. S. L. Thompson, Setauket, L. I., 42 bu. 1 peck,............ 15
3. Justus White, Pamelia, Jefferson co., 40 bu. 2 pecks,...... 5

Indian Corn.—1. Peter Crispel, Jr., Hurley, Ulster co., 100 bu. 1.32 per acre,...$20
2. Robert Eells, Oneida co.,.............................. 15

Squire Foster, of Hillsdale, had 97 18.32 bu. on one acre, but as the regulations required two acres no premium could be awarded.

John Brasse, of Pamelia, Jefferson co., had 575 bu. by weight and 560 by measure, on 8 acres 9.10ths of land.

Oats.—1. H. B. Bartlett, Paris, Oneida county., Potato Oats, 98 bu. 14 qts. per acre,.....................................$15
2. George H. Eells, Clinton, Oneida co., 87 bu. 3 qts,......... 10
3. H. B. Bartlett, Paris, Oneida co., common oats, 84 bu. 21 qts, 5

E. M Bradley, East Bloomfield, raised 83 bu. 7 qts. per acre.

Barley.—1. E. M. Bradley, East Bloomfield, Ontario co., 53 bu. per acre,..$15
2. E. R. Dix, Vernon, Oneida co., 44½ bu., superior quality,... 10
3. Wm. Baker, Lima, Livingston co., 47 14.48 bu. per acre (quality not equal to Mr. Dix's),.......................... 5

Peas.—1. E. M. Bradley, East Bloomfield, 41½ bu. per acre,..$10
2. Mr. Rapalje, Rochester, "Early Kitt" Peas, fine specimen,..Vol. Trans.

Beans.—Asahel R. Dutton, Meredith, Delaware co., 30 bu, 20 qts. per acre,..$10

Potatoes.—1. Quality: H. B. Bartlett, Paris, Oneida co., 304 bu. "Western Reds,"......................................$15
1. Quantity: Nathan Taft, Pittstown, Rensselaer co., 325 bu... 15

Ruta Baga.—1. Valentine H. Hallock, Northeast, Dutchess co., 1.015 bu. per acre,.....................................$10

Carrots.—1. E. Risley & Co., Fredonia, Chautauque co., 951½ bu. per acre,...$8
2. N. Hayward, Brighton, Monroe co., 431 bu. per acre,..... 6

Cauliflowers.—John S. Goold, Albany; Lewis E. Smith, Halfmoon.—Vol. Transactions to each.

Tobacco.—1. M. G. Warner, Rochester,....................... $5

Timothy Seed.—1. Robert Eels, Oneida co.,................... $5
2. George H. Eels, Oneida co.,............................. 3

Management of Farms.—1. Premium: Rawson Harmon, Wheatland, Monroe co..........................Silver Cup, value, $50
2. D. D. T. Moore, Watervliet, Albany, co., do do 30
3. E. M. Bradley, East Bloomfield, Ontario co., do do 20

David Coonradt, Brunswick, Rensselaer, co.,.............Trans.

Fruit.—*Apples*—largest and best collection.

1. W. H. Rogers, Wayne co., (31 varieties) silver medal and Diploma.
2. N. Hayward, Brighton, Monroe co., (27 varieties,) vol. Downing's Fruits and Diploma.
3. R. Hardy, Ogden, Monroe co., (25 varieties,) vol. Downing's Fruits.
4. Peter Patterson, of Moscow, Livingston co., vol. Transactions.
5. J. W. Bailey, Plattsburgh, Clinton co., (21 varieties.) vol. Thomas' Fruits.

To Luther Hagar, Plattsburgh, E. M. Bradley, East Bloomfield, M. J. Pardee, Palmyra, Wm. Newcomb, Pittstown, E. P. Prentice, Albany, Chas. Lee, Penn-Yann, E. Yeomans, Walworth, E. C. Frost, Chemung, each a volume of Downing's Fruits.

To David Emery, Ithaca, J H. Watts, Rochester, John Donelan, Greece, J. Johnson, Brighton, H. Hardy, Ogden, H. Hooker, Rochester, H. D. Adams, Brighton, E. Darrow, Greece, R. H. Brown, Greece, C. J. Ryran, Rochester, each a copy of Thomas' Fruits.

To Dennis Clark, Palmyra, Joel Hall, Marion, Eli Barnum, Walworth, D. Tomlinson, Schenectady, H. B. Bartlett, Paris-Hill, Henry Vail, Troy, Wilson, Thorburn & Teller, Alb., David Coonradt, Brunswick, W. P. Coonradt, Brunswick, E. G. Stearns, Gorham, Stephen Hyde, Palmyra, Henry Powis, Seneca county, each a copy of Norton's Elements of Scientific Agriculture.

Pears.—Best collection: 1. Henry Vail, Troy, vol. Downing's Fruits; 2. R. G. Pardee, Palmyra, vol Thomas' Fruits.

Grapes.—Best collection: 1. Joseph Cary, Albany, vol. Downing's Fruits; 2. R. G. Pardee, Palmyra, vol. Thomas' Fruits.

Foreign Fruits.—F. R. Elliott, Cleveland, Ohio, for a collection of apples, vol. Transactions.

Wines.—To Miss Goodrich, Burlington, Vt., for six varieties of domestic wine—currant, gooseburry, elderberry, &c.—small silver medal and copy of Norton's Scientific Agriculture.

To James Stoddart, Palmyra, for a specimen of white wine manufactured from a seedling grape resembling the Black Cluster, a copy of Downing's Fruits.

To George Vail, Troy, for a specimen of wine from Isabella Grapes, a vol. Thoma's Fruits.

Models of Fruits.—A beautiful collection of models of fruit, consisting of apples, pears, plums, cherries, nectarines, &c., was presented by Townsend Glover, Fishkill-landing, for which a silver medal and diploma were awarded.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have been received since our last, from Townsend Green, C., G. A. Hanchett, Julia E. Hanchet, James H. Alexander, X., William Bacon, Prof. J. P. Norton, C. E. G., H. R., A Subscriber, J. S. Copeland, A. D. W., L. Young, G. J.

Books, Pamphlets, &c. have been received as follows: Transactions of American Institute for 1849, 548 pp. octavo, and Random Recollections of Albany and Hudson, from Charles Van Benthuysen, Esq., Albany——Transactions of the Ag. Societies of Massachusetts, for 1849, from Wm. Bacon, Esq., Richmond——Annual Report of the New Haven Co. (Ct.) Hort. Society for 1850——Nova Scotia Farmer's Almanac for 1851, from C. H. Belcher, publisher, Halifax, N. S.——Proceedings of the Greene Co. Ag. Society for 1850, from A. Marks, Esq.——Transactions of the Worcester Co. (Mass.) Ag. Society, for 1850, from J. W. and W. S. Lincoln, Esqs.

Specimens of Indian Corn for the World's Fair.—Among the various contributions from this State to the World's Fair, few, we think, will attract more attention than a collection of varieties of Indian corn, prepared and forwarded Mr. B. B. Kirtland, of the Cantonment Farm, Greenbush. The collection embraces seventeen varieties, grown in New York. All of them are shown in the ear, and are arranged like the petals of a flower, around a central point. Specimens of several of the varieties are also shown on the stalk, with the leaves and other parts of the plant, thus presenting a very good idea of the peculiarities of each. The different forms in which this grain is prepared for culinary and other uses, are shown by samples in glass jars, which are placed in the case with the corn. They consist of fine and coarse meal, grits, farina, hommony, starch, oil, &c. The whole arrangement is very neat, and highly creditable to the taste and judgment of the contributor.

Agent for the World's Exhibition.—Gov. Hunt in his late message, recommends that the Legislature should provide for sending an agent to this exhibition, to take charge of the various articles which may be forwarded by the citizens of this State.

Lawrence Scientific School.—This valuable school, which is attached to Harvard University, embraces instruction in Chemistry, Zoology, Geology, Engineering, Botany, Comparative Anatomy and Physiology, Astronomy, Mathematics, &c. The department of Chemistry is under the direction of Prof. Horsford; that of Zoology and Geology under Prof. Agassiz; that of Engineering under Prof. Eustis. The year is divided into two terms, the first of which commences in August and the second in February. The school enjoys a well-deserved reputation, and receives students from all parts of the country. For particulars apply to Prof. E. N. Horsford, Cambridge, Mass.

Crops in New Jersey, 1850.—Mr. Benj. Sheppard, of Greenwich, N. J., writes us that the potato crop was in most instances a failure; that white wheat was damaged by the rust, so that the crop was comparatively of little value; red wheat good in quality and quantity; Indian corn below an average yield; oats would have been good, but were injured by the storm just before harvest, which reduced the yield one-third.

Yield of Butter.—Mr. G. A. Hanchett, of West Stockholm, St. Lawrence county, N. Y., informs us that his dairy of 22 cows, produced last season an average 170 pounds butter to each cow, besides the milk and cream used in a family of eight persons. His practice has been to set the milk in earthen pans, first putting into each pan half a pint of cold water, which he thinks throws up the cream and prevents the milk from souring as soon as it otherwise would. He asks what are the particular advantages of churning the milk instead of the cream—whether it produces more or better butter. Will some one who has had experience with both modes answer?

Increased Production of Wheat in New York.—From the best evidence we can obtain, it appears that the production of wheat in this State is increasing. This increase is doubtless attributable in part to the extended cultivation of the grain, by the clearing of new land, &c.; but we think the adoption of improved modes of tillage has been also a considerable cause of this result. A writer in the *Argus* of this city gives a comparison of imports of wheat and flour at the ports of Buffalo and Oswego, and also the receipts at tide water on the Hudson, for the years 1849 and 1850, by which it appears that there was a deficiency in the imports of the latter as compared with the former year, of 141,049 barrels of flour, and 1,073,798 bushels of wheat, while the receipts at tide water for the same years, show an increase for 1850, of 8,102 barrels of flour and 869,987 bushels of wheat; from which it is reasonably concluded "that New York must have made up the large deficiency of about 150,000 brls of flour and 1,900,000 bushels of wheat."

An Old Horse.—George Young, of Grand Rapids, states in the *Mich. Farmer* that he owns a horse which is forty-five years old. He says he bought the animal in 1825, and that his age was then stated to be fifteen years; that he drove him in a buggy and rode him in this city, (Albany,) for six years, and that for the last nineteen years he has been one of a farm team; that he has still the appearance of a colt, that in 1848 he drove him 240 miles in four days. About nineteen years ago his teeth became so uneven that he could not grind hay well, and his owner had them filed down, since which "he has been able to feed with the youngest horses."

Musk-Rats.—A correspondent informs us that he is much annoyed with these animals, by their burrowing and injuring the banks of ditches, &c., and he wishes to know what is the best method to destroy them. Will some one give the desired information?

Agricultural Publications.—Edmund Ruffin Esq., of Virginia, in a lecture on the subject of agricultural improvement, remarks, "Notwithstanding all the existing obstacles and difficulties, American agriculture has made greater progress in the last thirty years, than in all previous time. This greater progress is mainly due to the diffusion of agricultural papers. In the setual absence of all other means, these publications, almost alone, have rendered good service in making known discoveries in the science, and spreading knowledge of improvements in the art of agriculture."

"Notes on American Agriculture."—The *American Agriculturist* for January last, has an editorial article entitled, "Review of Professor Johnston's Notes on American Agriculture." The article reviewed was published in the Scottish *Quarterly Journal of Agriculture* for July 1850—(not "September" as stated in the Agriculturist.) We noticed the same article and gave some extracts from it in the Cultivator for October last. By what propriety these "notes" are attributed to Prof. Johnston, we do not understand. Their publication was commenced in the Q. Journal for March 1850, and continued through the numbers for July and October. They had the signature "B." We know of no reason for supposing them to have been written by Prof. Johnston, but on the contrary, are satisfied that he is not their author. In the first place the "notes" bear eviednce of having been taken as early as 1848, a year before Prof. J. was in America. The writer speaks of having visited the New York markets, "frequently" during the season when peaches were for sale; but Prof. J. was not in the city of New York till January 1850, and he left the country in March following. Again, the writer of the "notes" speaks of having "toiled through" portions of the "far-famed Genesee country in mid-summer." Prof. J. only passed through that county once, on the rail-road, and that was in the month of September. There is much other evidence of the same kind, but this is sufficient for the present.

☞ The series of articles entitled *Village Lectures*, published as original in the *Agriculturist*, first appeared in the English *Agricultural Gazette*.

Fruit-raising in New Jersey.—Mr. George W. Obert, of Pennington, Mercer county, N. J., writes us that he has a peach orchard of 3,300 trees, nine years old, which has borne six full crops in succession. It occupies twenty acres of ground. He states that in 1849, his crop cleared $6,000. The peach crop in general, was that year destroyed by frost. The orchard is on a high northern exposure, which keeps the trees from blossoming till the spring is well advanced. Mr. O. states that he put out 500 apple trees last spring, of the choicest kinds, and that he did not lose one of the trees. Several of them produced apples the same season.

Potato Disease.—Our attention has been called to an article on this subject published in the *Christian Register*. The writer thinks "the potato rot is not an epidemic growing out of atmospheric influence, but the decline, the *running out* of the vegetable, in consequence of the mode in which it has been propagated." He believes there is a "general law" that "vegetable reproduction without deterioration can take place only from the seed." He observes that if the potato be an exception to this law, it is the only one with which he is acquainted; and adds, "It is believed that no variety of grafted fruit out-lives in full vigor and excellence the possible lifetime of its parent tree." The remedy he suggests for the malady, is to "procure seed from the native potato of South America, and to propagate a new race from the savage stock." Neither this hypothesis as to the cause of the potato disease, nor the suggestion as to its remedy are new; the former has been discussed at great length in most of the European and American agricultural journals, and shown to be without foundation, and the latter has been extensively tried and "found wanting." We would refer the writer alluded to, to our volume for 1848, pp. 140, 192.

Mott's Agricultural Furnace.—A subscriber in Georgia wishes to know whether this article will answer for boiling sugar from the sugar-cane. Will some of our correspondents answer the inquiry?

Cultivation of the Chestnut.—A correspondent in Otsego county, wishes information in regard to the best mode of cultivating the chestnut. He has planted the seeds several times and cannot make them grow. We shall feel obliged if some one who is acquainted with the cultivation of this tree, will give us a communication on the subject.

Barley Trade of Albany.—This city is the principal point of trade in barley for the Northern and Eastern States, and frequent purchases are made here for the cities along the coast, as far south as Charleston. The *Argus* gives from official documents the receipts of barley at tide-water for a period of nine years:

1838	677,338	bush.	1847	1,523,023	bush
1841	121,010	"	1848	1,548,197	"
1844	818,472	"	1849	1,400,194	"
1845	1,137,917	"	1850	1,720,000	"
1846	1,427,953	"			

These receipts are stated to be almost entirely sold at Albany. According to the statement here referred to, the actual transactions here, in the crop of 1850, reached 1,330,000 bushels, the aggregate amount paid for which was $1,008,574, an average of 76 cents on the bushel. The lowest figure paid was 65 cents, the highest 101⅛.

Kinderhook Wool Depot.—We have watched with much interest the operations of this establishment, which has now been in existence for six years. Many prominent and enterprising wool-growers in this State, were desirous that the experiment should be made, of a proper and judicious classification of fleeces, preparatory to making sales, with the hope that greater inducements would thereby be offered for improvements in breeding sheep, by obtaining remunerating prices for wool; also, that by a just discrimination between wool in good and in bad condition, motives would be presented to all wool-growers to put their fleeces in proper order for market, by thoroughly cleansing them before shearing. The success which has attended the efforts of its proprietors, we are pleased to learn has met the expectations of its friends. We learn that about the 1st of December last, one sale was made at this depot to an eastern manufacturer, amounting to over $100,000. Included in this sale, were some of the finest and best conditioned clips in the United States; and that they were justly appreciated by the manufacturer, is evidenced by the prices obtained, which were for the finest grade 65 cts. per pound; for the next 55 to 57 cts.; for the next 48 to 50 cts.; for the next 45 to 46 cts. Other sales were made of the medium and low grades at from 34 to 45 cts., which nearly exhausted their entire stock received the past season. Their present supply we are told consists only of such lots as were received late in the fall, and at the time alluded to were not sorted and ready for market.

☞ We are informed that Mr. GEORGE A. MASON of Jordan, Onondaga county, has recently sold the well-known Morgan horse "Major Gifford" to ELI SHELDON Esq., of Penn-Yan, Yates county; also a fine two year old colt by "Genl. Gifford" to Mr. F. W. HEWSON, of the same place. These will prove valuable animals in improving the horses of that fine section of country.

WILD HOG.—A hog which was sent from Smyrna to Mr. CORDIS, of Long-Meadow, Mass., has been running wild in that vicinity for several years, but has lately been killed by a company of hunters, after an uninterrupted pursuit of six days and nights. He had been hunted more or less for two winters previously, and has killed several dogs. We hope his skin will be carefully preserved, as it will furnish a correct idea of the eastern wild boar.

Review of the Wool Market.

Those of our readers who have observed our notices of the wool market for the last eight months will find, that contrary to the views expressed early in the season, wool has advanced to a much higher price than we then anticipated. We are gratified at this result, as it will undoubtedly direct the attention of our farmers to the business of wool growing. No other branch of agricultural pursuits has suffered so much from depressed prices for the last few years, as sheep husbandry. The prices obtained for wool have not been as remunerative as those obtained for butter and cheese; and hence the dairy business in many sections has nearly superseded the growing of wool. This is a natural result consequent upon unremunerative prices for any one article of farm products.

Extensive preparations were made early in the season by manufacturers through their agents, and also by wool dealers, to purchase largely in the country. The opening prices were at a point which left a margin for profit to the manufacturer. These preparations, as is usual in such cases, created a strong and brisk competition; prices steadily advanced, and the activity in purchases continued until the entire clip of the year passed directly into the hands of the manufacturer or dealer; and when those who had been less active sought for their stock, or early purchasers went out to renew their supplies, they were compelled to resort to the principal wool markets to obtain them. The fact was then conceded, that the demand and supply of wool were so nearly equal as to enable the holder, and not the purchaser, to name the price.

Wool has now reached a price which, it is believed, will fully remunerate the grower; and we can see no good reason why it should not remain so, while the rather short supply continues, and the money market remains easy as at present. This state of things will, undoubtedly, be unfavorable to the present prosperity of the manufacturer, unless his goods should advance beyond the ruling prices of the past year. The advance in wool will, however, aid him in obtaining an improved price for his goods, as that advance is not confined to the U. S. but is realized to an equal extent in Europe. Judging from the present state of the wool trade both in this and foreign countries, and from the prospective supply and demand. we hazard the opinion that the wool growing business in the U. S., for the next few years, will be as remunerative as any other branch of agricultural pursuits.

WOOL MARKET—January 20, 1850.

The market was very active throughout the month of November, and early part of December and prices advanced on all medium and low grades. The stock of domestic fleece being very much reduced, the market has been less active during the early part of the present month—though prices were fully sustained. There is now more activity and a farther advance is noticed. Woollen fabrics continue low, but prices are firm, with a fair prospect of an advance; which result is much desired by the manufacturers, who say they are working "too close to the wind." We quote,

Am. Saxon fleece	48 to 55
Full blood Merinos	44 to 47
½ to ¾ do	40 to 43
Native to ¼ do	35 to 38

Premiums to Agents of the Cultivator.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following PREMIUMS will be paid, in Books, or Implements or Seeds, from the Albany Agricultural Warehouse, to those who send us the largest number of subscribers for 1851:

1. To the one who shall send us the greatest number of subscribers to THE CULTIVATOR for 1851, with the pay in advance, at the club price of sixty-seven cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the FIVE next largest lists, each FIVE DOLLARS.
7. For the TEN next largest lists, each THREE DOLLARS.
8. A copy of Thomas' "AMERICAN FRUIT CULTURIST," price one dollar—a very valuable work—or any other dollar book—to every Agent who sends us fifteen subscribers and $10, and who does not obtain one of the above prizes. LUTHER TUCKER.

Albany, N. Y., Jan. 1, 1851.

Remember the Terms to Clubs.

Seven Copies for $5.00—Fifteen Copies, and a Dollar Book to the Agent, for $10.00.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office We will address them to as many different offices as may be necessary.

Just Published.

A PRACTICAL Treatise on the Construction, Heating and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, and other kinds of horticultural structures, with practical directions for their management, in regard to light, heat, and air, with numerous engravings, by Robert B. Leuchars. Price $1. For sale by J. M. THORBURN & CO., 15 John street, N. Y. Feb. 2—1t.

Fresh English Garden Seeds.

NOW landing from the Southampton, 95 casks fresh London Garden Seeds, growth of 1850, among which are several superior new varieties of early Peas, the Queen of Dwarfs, early Emperor, Prince Albert, Fairbeard's Surprise, Champion of England, Bishops Long Pod, Dwarfs and others; 100 bushels Dwarf Blue Imperial, of the most approved sort; Shanley's Marrows, British Queen and other fine late sorts—acquisitions to the most limited garden; London particular early Cauliflower and Broccoli; fine early York Cabbage, early Wakefield, a superior early market variety—early Victoria, early Vanack, Stone's early Sprotsbers, Early Ox Heart and Large York—all famed and very desirable early sorts; 20 bushels extra fine early short top scarlet Radish; 10 cwt. Skirving's improved Ruta Baga; 20 bushels broad Windsor Beans; 30 bushels Rape seed; 30 bushels Pacey's Perennial Rye Grass; 10 bushels fresh prepared Mushroom Spawn, with a great variety of miscellaneous seeds, which, with their fresh stock of American growth, renders their assortment the most complete in this country, and on lower terms than articles of the same quality can be procured of any other establishment in America. Price Currents, for wholesale dealers, can be had on application. The above is but a small portion of their importation. Larger arrivals from France and Holland are hourly expected, and the whole from the most reliable sources. In short they warrant every article emanating from their stock on hand. Catalogues gratis.

J. M. THORBURN & CO., 15 John street, N. Y.

A few bushels fresh Embden Groats, by above arrival. Price 25 cents per quart. Feb. 1—1t.

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Vol. 5, in Two Parts, containing the Pedigrees of Cows and their Produce to the year 1812, price 31s. 6d.
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Vol. 7, containing the Pedigrees of Bulls, from No. 7750 to 8709, with upwards of 1.200 Cows and their Produce, to the close of the year 1815, price 21s.
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Vol. 9, containing the Pedigrees of Bulls, from No. 9853 to 11060, with upwards of 1,850 Cows and their Produce, to the 31st December, 1819, price 21s.

Published by H. STRAFFORD, 3 Camden Villas, Camden Town, London. Jan. 1, 1851—2t.

State Agricultural Warehouse.

THE subscribers would respectfully invite the attention of Farmers and Planters to their varied assortment of

Agricultural and Horticultural Implements,

among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Rail Road Horse-power and Thresher, (all of which took the first premiums at the late State Agricultural Fair, and are unequaled by any now in use;) together with a full assortment of the latest and most improved Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c., &c., which they will sell at as low rates as any similar establisment in the United States.

We shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles of us may rely upon their giving satisfaction, as we intend keeping only such as we can fully warrant.

BARR & ATTERBURY,
Feb. 1—1t. No. 25 Cliff-street, New-York.

Cranberry Vines.

FIFTY THOUSAND plants, good size for planting—and can be forwarded to any part of the Union. For sale by F. Trowbridge, at Agricultural Warehouse, 49 State-street, New-Haven, Ct.

Prouty & Mears' Celebrated Premium Center Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.

Feb. 1—1t. BARR & ATTERBURY.

Farm For Sale.

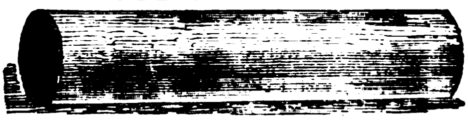
THE subscriber offers for sale the farm on which he now resides, situate four miles from the village of Waupun. The Farm contains 400 acres of land, 200 of which is prairie; the balance openings, timber and meadow land. On the farm there is two new houses, barn, stables, wells of water, and a large quantity of fine fruit trees. 200 acres are under good cultivation, near 50 of which is in winter wheat—100 tons of good hay may be cut on the place. The farm is well watered, and is without exception, one of the best farms in the state. It can be easily divided into three splendid farms, and will be sold together or separate. The price will be made low, and terms easy. Enquire, post-paid, of TOWNSEND GREEN, Waupun, Fond Du La co., Wisconsin. Feb. 1, 1851—2t.

Emery's Horse-powers and Threshers.

EMERY & Co.'s Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.

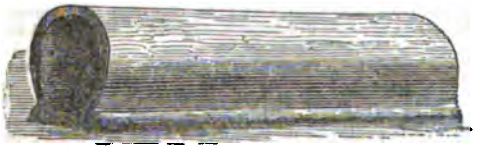
Feb. 1—1t BARR & ATTERBURY.

TUBULAR TILE.



HORSE SHOE TILE.

SOLE TILE.



DRAIN TILE,

TO correspond with the above descriptions, will be manufactured by the subscribers as soon as the spring season will admit, and they invite Farmers, Gardeners, and Fruit Growers, Nurserymen, Builders, those improving Pleasure and Cemetery grounds, and all persons having occasion to lay an underground drain, to examine and use the article; it is durable and cheap. Orders from a distance, with satisfactory reference, will receive prompt attention.

PRICES.

TUBULAR TILE.—3 inches diameter, $14 per 1000. 2½ inches, $12 per 1000.

HORSE-SHOE TILE.—7 inches rise, $40 per 1000. 5½ inches, $18 per 1000. 4½ inches, $16 per 1000. 3½ inches, $14 per 1000.

SOLE TILE.—5½ inches rise, $40 per 1000. 4½ inches, $20 per 1000. 3½ inches, $14 per 1000.

A. S. BABCOCK & CO., 60 Lancaster-st., Albany.
Albany, Feb. 1, 1851—1t.

School of Applied Chemistry,

YALE COLLEGE, NEW HAVEN, Conn.

JOHN P. NORTON, Prof. of Scientific Agriculture.
HENRY WURTZ, First Assistant.

STUDENTS are received in this Laboratory as a special class distinct from the other college departments, and instruction is given in all branche of Chemistry, both organic and inorganic, general and special.

Every facility is afforded to those who desire to become proficient in Scientific Agriculture, in the analysis of soils, plants, animal substances, manures, &c. Students taken with special reference to their becoming instructors.

A course of Lectures upon *Scientific Agriculture*, by Prof. NORTON, will commence about the middle of January, and continue two and a half months. This course is intended to present a plain and intelligible view of the connections of science with agriculture, which may be understood by any farmer. Mr. Wurtz proposes to lecture on some points of Applied Chemistry during the summer term.

The lectures of Prof. SILLIMAN on Geology and Mineralogy, and those of Prof. OLMSTED, on Natural Philosophy, Astronomy and Meteorology; also the college libraries and cabinets, are accessible to the students.

For information as to terms, &c., apply to Prof. NORTON,
Oct. 9, 1850—4t. *New Haven.*

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

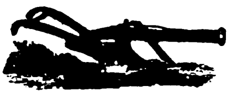
ANDRE LEROY,

Nurseryman at Angers, France,

ALREADY well known in the United States and in Europe, having obtained at the last French National Fair, in Paris, the only Gold Medal awarded, both for his Fruit and Ornamental Trees, begs leave to inform his friends and the public in general, that he is now ready to execute, with the greatest care and despatch, all the orders that might be sent to him. His Catalogues may be had on application to his agent in New-York, Mr. EDOUARD BOSSANGE, merchant, who will receive and forward all orders for Mr. LEROY, directed to his care, and also pass through the Custom-House and forward to their respective destinations, without any trouble to the importers, all Trees and Plants ordered. Dec. 1—3t.

Agricultural Warehouse and Seed Store,

No. 197 Water-street, (near Fulton,) New-York.



THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c. &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured it the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

Jan. 1, 1851—tf. JOHN MAYHER & Co.

Unrivaled Improvement in Water Wheels for Mill-Owners.

RECENT improvements in the French Turbine and Scotch Mortar Water Wheels, exceeding all others, even the most perfect Overshot Wheel, by a great percentage, has been patented by Mr. Henry Van Dewater. It has been fully tested, and found *far* in advance of all other wheels, both in power and economy, or quantity of water required. Its superiority is established in the following points: 1st. It gives greater percentage of the water. 2d. Is not affected by back-water. 3d. Is not obstructed by ice. 4th. Wastes no water. 5th. Is more durable. 6th. Requires less room. 7th. It is less variable in its motion when performing more or less labor, with the same supply of water.

The quantity of water required under different heads and falls, for six and a half horse power, say from 5 feet to 28 feet fall, first
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
5-114, 6-88, 7-68, 8-57, 9-48, 10-44, 11-38, 12-31, 13-31, 14-29, 15-26,
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
16-25, 17-23, 18-21, 19-20, 20-19, 21-18, 22-17, 23-16, 24-15, 25-14,
ft in ft in ft in
26-11, 27-10, 28-9. All who may wish to improve their mills or factories, by the use of the above wheels, and will send us a statement of head and fall of water, and the amount of horse power required to drive the machinery they use, will receive immediate attention.

☞ This wheel is capable of driving, according to the quantity of water, and as the head and fall may be in height, from 6 horse-power to 250 horse-power.

Mr. Jagger is a practical and experienced mill-wright, and considers this the best Water Wheel that has ever been offered to the public.

We have a large assortment of Machinery Patterns, that have been collecting more than fifty years, and are ready at all times to furnish Castings, fitted or not, at short notice and on fair terms.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works,
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THE DOLLAR NEWSPAPER,

PHILADELPHIA, PA.,

CIRCULATION ABOUT 40,000 *COPIES WEEKLY,*

And the only Family Newspaper of its character afforded to single subscribers

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AND is printed on a large imperial sheet of white paper, with fair, new type, of full face and small body, by which the largest amount of reading may be crowded into the smallest space. As a vehicle of the EARLIEST NEWS, it has no equal among the weekly press, and to maintain its well earned reputation as the medium through which the best ORIGINAL STORIES are given to the public, the proprietors were induced last fall to offer

FIVE HUNDRED DOLLARS AS PREMIUMS

For the Eight best stories submitted in competition. This offer drew out a large number of stories from gifted authors, and the five hundred dollars were awarded and paid. The series of stories are now in course of publication, and will be continued through the winter and spring. In point of merit they are believed to be unequaled by those published in any other family paper. A feature peculiar to the "Dollar Newspaper," and one which greatly enhances its value with the farmer and his family, is

AN AGRICULTURAL DEPARTMENT,

In which about two colums of original articles are weekly published, on subjects connected with the practical business of the farm—the chemical properties of soils and manures; the most approved modes of cultivation, etc., etc.

The Newspaper is, in a word, perhaps more utilitarian as well as more original in matter, than any other family paper in the country, and while one dollar per year is considered very low to single subscribers, the terms to clubs are still lower; and it is to these that we especially call the attention of postmasters and all other friends of the "Newspaper," who may feel an interest in increasing its circulation. This is the season for making up clubs. The following are the club terms:

Club of Six Copies,	$5 00	*Club of Thirty-four Copies,*	25 00
Club of Thirteen Copies,	10 00	*Club of Forty-two Copies,*	30 00
Club of Twenty Copies,	15 00	*Club of Fifty Copies,*	35 00
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The amount of subscription in every instance must be paid in advance, and in no case will a subscription be received for a shorter period than one year. *Will our friends, the Postmasters, show the paper* to such persons in their neighborhood as may wish to become subscribers.

THE MARKETS,

Wholesale and Retail—Prices of Produce, of Cattle, etc., etc.

The important subjects which come under this head are minutely attended to, and more fully reported than in any other Weekly Family Paper in the country. In connection with this matter, a Bank Note List, the Rates of Discount, a notice of all new counterfeit and altered notes, with the Rates of Domestic Exchange, are weekly puplished, after undergoing careful revision and correction. Besides these, the prices of the staple products of the country, in all the principal markets, as well as the price of cattle in all the Atlantic cities, are condensed into a brief space in each number.

No subscriptions continued for a longer period than ordered and paid for.

Address, post-paid,

A. H. SIMMONS & Co.,
S. W. cor. Third and Chesnut-Sts., Philaddelphia., Pa.

Feb. 1, 1851—1t.*

Great Sale of Dairy Stock.

THE subscriber will offer for sale, without reserve, at Public Auction, on TUESDAY the *25th day of March*, 1851, at 12 o'clock, on the farm on which he resides, at Morrisania, Westchester county, New-York, upwards of

100 Head of Cows and Heifers.

About 50 head of them are Native and Amsterdam Dutch Cows, selected by the subscriber with reference to milking qualities. The remainder, about 50 head, are grades—half, three-fourths, and seven-eighths blood Heifers, from 1 to 5 years old, bred by the subscriber, out of the very best Cows, and got by the celebrated imported short-horned Bull "Marius;" and so far as they have come to maturity, they appear to combine, with most faultless symmetry, nearly every point indicative of perfection in a Dairy Cow.

Taking the whole dairy together, it is perhaps the best selected in the United States. The Cows, with a few exceptions, are all young, and in calf by the fine Bull "Amsterdam."

The many premiums I have been awarded, by the State Agricultural Society and by the American Institute, give evidence of success as a breeder.

I will also sell my short-horned Cow, that took the first premium at the American Institute Fair, in October last.

Two 2-year old Heifers and one yearling, all thorough bred.

Two yoke of very superior WORKING CATTLE, with several fine HORSES.

One BOAR, of the Russian grass breed.

One imported improved (white) Berkshire SOW and PIGS.

One Suffolk SOW and PIGS.

The number of hogs in all, will be from 50 to 60, and some of them are as fine as can be produced.

All the Farming and Dairy utensils, which are numerous.

☞ A Catalogue and description of each animal, will be given on the day of sale. Stock purchased to be sent to a distance, will be delivered by the subscriber on ship-board or railroad cars, in the city of New-York, free of risk and expense to the purchaser.

Morrisania is nine miles from New-York by Harlem Railroad.

THOS. BELL.

Jan. 1, 1851—3ms.*

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Albany French Burr Mill Stone Factory.

ADAM R. SMITH, late of Troy, having located at the corner of Broadway and Quackenbush streets, Albany, N. Y., invites the attention of Millers and Millwrights to his large stock on hand, inclusive of finished stones, together with his facilities for filling orders at short notice. ☞ Great care being exercised in their manufacture, by the most experienced workmen, and purchasing entirely for cash, which enables him to procure stock at the lowest market prices, he can offer superior advantages to customers.

Dutch Anchor Bolting Cloth,

Of extra heavy quality, and every other article used in milling, always on hand.

NOTICE.—Having supplied to Mr. ADAM R. SMITH, the stock of Burr Stones for his shop in Albany, we can say that his selections comprised only the best of our whole importations, which were of unusually good quality this season. M. & W. LIVINGSTON.

70 Broad-street, New-York, Sept. 9, 1850.

TROY, Sept. 17, 1850.

We have had the pleasure of several years acquaintance and intercourse with Mr. ADAM R. SMITH, and consider him a gentleman of high character, and particularly scrupulous as to his engagements. He will undertake nothing that he does not know how to perform.

ELIAS PLUM, Pres't Com'l Bank Troy.
F. LEAKE, Cashier do.

Jan. 1, 1851—2t.*

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞ Capital $50,000! ☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

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Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Transactions N. Y. S. Ag. Society.

THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

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A VERY DESIRABLE COUNTRY SEAT AND FARM

For sale, in Ballston, Saratoga County, N. Y.

I OFFER for sale in Ballston, (Ballston Center P. O.) Saratoga county, N. Y., my country seat, together with about five hundred acres of land.

The land for the most part is under a high state of cultivation, yielding heavy crops of grain, grass and roots.

The fences are in good order, and mostly of stone.

There are about 60 acres of forest near the Mansion, susceptible of ornament.

The farm-houses, barns and other out-buildings are abundant, and convenient for farming operations.

The whole farm is well watered, by streams and wells, and the stables and yards are supplied through lead pipes.

The Saratoga and Schenectady Railroad, (now laid with T. rail,) as well as the Saratoga and Schenectady Plank road, passes through the farm at convenient points.

The farm on the west is bounded by forest; on the east by Ballston lake—a beautiful sheet of water, well stored with fish, and is about four miles long, and opposite the farm half a mile wide. On the borders of the lake there is an almost inexhaustible supply of the richest muck manure, containing by analysis, one-twelfth marl, and easily obtained.

The Mansion is replete with every convenience, having eleven rooms on the ground floor, (aside from kitchen and pantries,) and including a spacious saloon 18 by 44 feet; the whole warmed by furnaces, and furnished with complete bathing establishments leading from the sleeping rooms.

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There is a beautiful sheet of water near the Mansion, (an artificial fish pond,) well stored with fish.

There are, for supplying the Mansion and farm-houses, wells of the purest water, and cisterns for rain water.

The farm has a full supply of agricultural implements, and fully stocked; these, with most of the furniture of the Mansion, can be had with the farm if desired.

Possession given on the first of March or April, 1851.

The district of country in the neighborhood is beautiful, and uncommonly healthy. Churches of various denominations, and select schools, and a ready market for the products of the farm, are near at hand.

The property is susceptible of being advantageously divided, and will be sold in whole or in part.

I have no objection to exchange for productive property in New-York or Albany. EDWARD C. DELAVAN.

Ballston Centre, Saratoga county, N. Y.

Refer to Editors Cultivator, Albany.
Hon. Erastus Corning, Albany.
E. P. Prentice, Esq., Albany.
T. Roessle, Preprietor Delavan House, Albany.
W. L. Woollet, Architect, Albany.
Hiram Barney, Esq., (Barney & Butler,) Wall-street, New-York.
T. D. Stewart, Esq., 108 Front-street. New-York.
Samuel Young, Esq., Phœnix Bank, New-York.
J. Cady, President Schenectady Bank, Schenectady.
Chancellor Walworth, Saratoga Springs.
Judge Buel, Troy.
James Emmett, Esq., Poughkeepsie.
Hon. James M. Cook, Ballston Spa,
Barstow & Lockwood, Detroit

Feb. 1, 1851—1t

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water st., New York, have constantly on hand, the most extensive assortment of the best and latest Improved Agricultural and Horticultural Implements, and Field and Garden Seeds ever offered for sale in the United States; embracing every Implement, Machine, or Seed desirable for the Planter, Farmer, or Gardener. Also, Guano, Bone Dust, Poudrette, Plaster, &c. Feb. 1—3t.

GUANO.

WE are in daily expectation of arrivals of Peruvian Guano. Those wishing to order, will do well to do so at the earliest moment. A. B. ALLEN & CO.,
New-York Agricultural Warehouse and Seed Store,
Feb. 1—3t. 189 & 191 Water st.

Fruit Scions for 1851.

THE subscriber will furnish Scions of the celebrated fruits of western New York, of the different varieties mentioned below:

Northern Spy.
Norton's Melon.
Early Joe.
Baldwin.
Ribston Pippin.
Red Canada.
Gravenstien.
Red Astrachan.
Lowel.
Porter.
Fameuse.
St. Lawrence.
Yellow Bell-flewor.
Swaar.
Westfield Seek-no-further.
Rambo.
Esopus Spitzenburgh.
Roxbury Russet.
Autumn Strawberry.
Green Sweeting.
Munon Sweeting.
Talman Sweeting.
Summer Rose.
Wagener.
Early Harvest.
Hawley or Dowse.

I will pack and send either by mail or Express at one dollar per hundred, orders post paid.

Virgalieu, Osband's Summer, Oswego Beurre, Onondaga or Swan's Orange, Pear Scions at 3s. per dozen.

N. B. In all cases where it is possible, I will send specimens of the Northern Spy apple. JAMES H. WATT.

Feb. 1—2t.

Fruit and Ornamental Trees,

For sale at the Nursery of H. Snyder, Kinderhook, Col. Co. N. Y.

THE proprietor of this establishment offers for sale, the coming spring, his usual assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, VINES, ROSES, GREEN-HOUSE PLANTS, &c.

Most of the trees are of large, handsome and thrifty growth, and among them may be found many of the best sorts of Apples, Pears, Plums, Cherries, Peaches, &c., grown in this country.

The stock of Apples and Pears is finer than has been offered before at this establishment.

Also, Pears on Quince stocks—Cherries on Cerasus Mahaleb stocks—Apricots, Nectarines, Grape Vines, Gooseberries and Currants, at the lowest market prices.

Ornamental Trees can be furnished by the hundred, at very reasonable prices, and of various sizes, for ornamental grounds.

EVERGREENS.—The following can be furnished of various sizes: Norway Spruce, Balsam Fir, Arborvitea, Scotch Pine, Deodar Cedar, Cedar of Lebanon, Auricarias, Cryptomeria Japonica, Cupressus. Thurifera, &c.

PLANTS FOR HEDGES.—Privet, Buckthorn, English Hawthorn, Locust, &c.

Seedlings of the following kinds—Sugar Maple, English Sycamore Maple, Horse Chestnut, Black Walnut, White Ash, European Mountain Ash.

A large stock of Apple Seedlings, suitable for root-grafting, at the lowest rate.

Catalogues will be forwarded to all applicants.

Feb. 1, 1851—3t.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

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ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

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THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE,

EDITED BY A. J. DOWNING, NEWBURGH,

Author of Landscrape Gardening, Fruits and Fruit Trees of America, Cottage Residences, Country Houses, &c., &c.,

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

New Series. ALBANY, MARCH, 1851. Vol. VIII.—No. 3.

Practical Husbandry.

Culture and Preparation of Hemp.

Eds. Cultivator—The many purposes in life to which the products of the hemp plant may be made subservient, constitute it one of the most useful of cultivated vegetables, not to say an article of prime necessity. Hemp, however, is a plant the cultivation of which is not considered difficult, in any moderately fertile soil, provided the grower govern his practice by a few plain maxims.

The best condition of the ground for the reception of the seeds of a hemp crop, is that pulverization of the soil and that smoothing of the surface by plowing, cross-plowing, and harrowing, which the grass or wheat farmer would esteem most suitable for either of those crops. The quantity of seed applied, varies in practice from one and a-half to two or more bushels per acre,—an excess over the right quantity being considered safer than a short-coming, in as much as when too thick, the stouter plants will take the lead and overtop the others, which are thus smothered and killed. The time of sowing varies in Kentucky, ranging from the middle of April to the last of May. Each individual must be governed in practice somewhat by his discretion, forming his judgment upon the condition of soil, advance of the season, or the extent of his crop, which if large enough to require more than two weeks in the harvesting, would make it proper to have alternate sowings, lest a part of the crop be injured by becoming over ripe,—the male plants dying and spotting.

The hemp plant disregards any moderate frost, and is therefore seldom injured from that cause in early sowing —the only striking difference between early and late sown crops, is that the chilly temperature of spring produces a low plant, with thick rough bark, whilst in the rapidly growing temperature of summer, the late crop shoots up to a greater height with a thinner and softer bark. In good crops the yield in either case will be about the same, the time of ripening varying not more than one week even though the difference in sowing may have equalled six weeks.

One maxim which experience rigidly requires the hemp-grower to observe, is, *never to commit his seed to land not in "good heart,"* a phrase which implies not only moderate fertility; but also a presence in the soil and an incorporation with it, at the time of sowing, of a fair proportion of vegetable matter, in order to ensure a proper degree of friability—a condition without which no tap-rooted plant can thrive. A neglect of this maxim, is the most pregnant source of disappointment known in the history of hemp-culture, and is generally followed by one or the other of two diseases, or rather casualties to the young crop, that is to say by "baking," or "firing," either of which maladies generally has power to arrest entirely the growth of the plant, or to hold it in check until surface grasses and weeds overpower the crop. It may therefore be well to consider in detail the nature and symptoms of both "baking" and "firing." The first results from a want of vegetable matter in the soil cultivated, as will readily be seen by attending to the symptoms. The vegetable mould or humus of a soil, is but carbonaceous matter accumulated by slow combustion for centuries, which, although but slightly soluble in water at any one time, is continually wasting away under the action of the laws of decomposition, being reconverted into its original gases, to fly off in air, or to be reabsorbed by plants. Any soil may, therefore, by washing rains, bad tillage, and hard cropping, be deprived of most of its vegetable mould; and such a soil may, after having been pulverised to the depth of six to ten inches, receive on its bosom the seeds of a hemp crop. Such a soil, so prepared, may moreover, yield a fair crop, provided the rains of the season fall in light showers, and with great frequency; but such a succession of favorable circumstances seldom happens; and a far more usual occurrence is the coming of a heavy rain, during which the mass of loose earth becomes saturated, and the moment after water begins to accumulate on the hard clay below, rising up towards the surface. If, then, the pulverised soil is defective in insoluble vegetable matter, well incorporated with the whole mass, to act as a sort of framework in keeping asunder the particles of clay, the whole soon runs together in a state of solidity, whilst the water, rising above it, carries in solution carbonates and other salts, and lighter particles, which as the water subsides, leaves a marl-like coating upon the embedded clay, rendering it impervious to water or air in a very high degree. This is called "baking," and those who have sometimes experienced its effects, in their anxiety to avoid it, not unfrequently pass into the opposite extreme, which is "firing" the plants, by attempting to grow the hemp crop with too much vegetable matter present in the soil, or with vegetable matter not in a condition to nourish and sustain vegetable life. The symptoms, above ground, indicating the presence of this malady, are a suspension of growth, a loss of color and vigor in the plants, and a parching up of the margin of the lower leaves; below ground the plants will be found to have only a tap-root the lower part of which is sometimes decayed, whilst in other cases, sections of the root will be found perfectly rotten, with sound portions above and below such section, whilst at the same time the vegetable matter under the surface, will generally be covered with a white mould. To avoid a catastrophe so pregnant with mischief, the farmer should know the nature of the disease in order to be qualified to judge of the fitness of any means of escape. I incline to adopt the theory of Liebig on this subject, which is at least very plausible, if not true. He thinks that in such a case, the covered vegetable matter is undergoing putrefaction, a state of decay in which it not only is unfit to feed vegetables, but has power to rob all bodies in contiguity, of oxygen, in order to carry on this decay, thus even destroying or "firing" the roots of living plants.

What renders his theory more plausible is, that a habit of early fall plowing, which allows such matter full time to decay into a brittle mass, will generally overcome this danger. By a parity of reasoning—if this fall plowing shall have been neglected—the better practice in such a soil would be to cross-plow, occasionally, in the course of the hemp-sowing period, not commiting the seed until the latest allowable moment.

The seed being good, the ground well prepared, and the crop having passed the dangers of baking and firing, —that is, having attained a height of six to ten inches, scarcely anything but a hail storm can disappoint the grower's hopes of a crop, the harwesting of which will be his next concern. This operation consists in cutting, curing, binding and stacking the crop,—all, if possible, without rain; for it will be found that the lint, by every process of preparation, is better when the plants are not allowed to grow dark by exposure to rain, dews and hot sun; whilst for complete success, in the white or in the water rot, a fair staple is indispensable. Cutting is generally performed by hand, using a straight knife, of fine steel, some fifteen inches long, which in operating should dip with the horizon at about the same angle as a mower's scythe. The handle attached, is about two feet long, making with the edge of the knife an angle of about 100 degrees.

In about four days after the cutting, the plants, in fair weather, are gathered and tied into bundles, and if possible on the same day put into stacks containing the yield of two acres each, of a fair crop. Keep all the branches—cutting, binding, and stacking—as near together as curing or drying the plants will allow. This practice guards against the loss of labor and injury to the crop, sometimes experienced when the plants are bound into bundles, and left standing over the field in small shocks. Hemp thus left in shocks, sometimes gets so wet as to require being spread again upon the field, before stacking. It is the work of one active man to cut, bind and stack one acre in five days.

Modes of Preparation.—Hemp is rotted for the brake in three several methods, called dew-rotting, water-rotting, and snow or white-rotting. The first method is that by which far the greater portion of American hemp is made ready for market. The crop being harvested in August and September, remains in stack until the hot sun of October gives way to a milder, spring-like temperature. It is then spread, generally upon the field on which it grew, until the fluids in the circulation and the cambiose matter which binds the fibres together decompose, when the fibres contract and burst off the stalk. Then the plants are gathered and set up in small shocks over the field, where it will remain two or three months without injury, during which period, say from January to April, the breaking is performed by active laborers. One great reason why this mode of preparing hemp is so popular with the American cultivator, is, that it affords comfortable and profitable employment for winter. Seventy-five to one hundred pounds is deemed a moderate day's work. Using the hemp-brake brings all the muscles into active exercise, and a man will prepare 100 pounds of hemp without inconvenience from cold, at a temperature too disagreeable to be abroad at other farm-work.

The second method, or water-rotting, is a much more tedious and expensive mode of preparation; but after having had several years' experience, and after having been most intimately acquainted with the details of two establishments beside my own, I do not hesitate to say that it is entirely practicable to water-rot in this country with success, and will say, further, that if precautionary means be adopted in the plan of operations, there is but little risk of health. My own pool, which answered remarkably well, is one hundred and ten by thirty feet surface, and four feet deep, excavated near a small stream. The lower wall is water-tight—the balance a rough stone-wall, capped with timber, anchored down by the weight of the wall—a middle timber anchored to the bottom, as high as the plates on the wall, divided the pool into two sections, fifteen feet wide, so that cross-timbers, 16 feet long, prevented the hemp from rising above the caps or plates when the pool was filled and the water let in.

Such a pool will contain the produce of about four acres. Water was conducted into this pool over the top of the wall, and let off by pipes at the bottom. The pool being accessible on all sides by an easy grade, three teams with light sleds would empty it in half a day, the water being previously let off, and the bundles allowed several hours to drain before being handled. Two men grasping the same bundle, raise it, and by a swing of the arm horizontally, throw it endwise upon the sled upon which the bundles are removed, and in frosty weather placed, still bound, against ranges of poles to dry; or, the weather being warm, are spread upon grass lands for the same purpose. Operating in this way for three or four successive seasons, and requiring the operators to change their damp clothes immediately after emptying the pool, no case of sickness ever occurred in a family of between forty and fifty persons, that was supposed to owe its origin to any of the details of the process of water-rotting hemp.

When the medullary exudations, uniting the fibers of the hemp-plant, have been extracted by immersion, the bark is detached from the woody part of the plant, and contracts so as to burst and show the wood, sometimes throughout the whole length of the stalk. In this stage, being removed from the pool and dried, it is ready for the brake.

Among the many machines for seperating the wood from the lint, I think the best yet seen in Kentucky consists of a crusher composed of several consecutive pairs of fluted rollers, driven by steam or animal power, using the hand brake, and using in addition no scutching apparatus other than a small iron knife, and even with these aids a good operator will be unable to prepare more than 50 to 60 pounds per day.

The only way, it appears to me, in which the process of water-rotting hemp can be made to work itself into favor, and become a regular employment with the hemp grower, will be for the consumer to tempt him into the practice by paying for a time in this market the prices which rule in the Atlantic cities. Receiving thus a bonus of some forty dollars, and a certain market, many would be induced to enter upon the business, and practice would, no doubt, by familiarising the producer with the details of preparation, and by suggesting improvements, so far cheapen the cost of production as to overcome, in a great degree, the reluctance the hemp farmer now manifests for this mode of preparation.

There are two classes of persons who should abstain from water-rotting hemp—those sanguine ones who think to increase greatly their income by operating in this high-priced article—and those who cultivate to any extent, winter grains and other mixed crops, requiring much labor in spring. The first class of persons, if experienced in the dew-rotting process, will find in this case, as in most others, that it is labor which imparts value to the products of agriculture, and that they gain nothing by doubling the price of a staple when they cannot produce half the quantity. The mixed farmer, too, will find fall and spring the only favorable periods for immersing his plants—times when the sowing and planting of his crops so far engross his time and labor as to render very inconvenient the filling and emptying of the pools.

White-Rotting.—In practice, the details of this process vary but slightly from those of dew-rotting. Hemp intended to be prepared in this way, is permitted to stand one entire year in the stack, and is afterwards, about the first of December, spread upon grass lands.

It is quite a misnomer to call this process "snow-rotting!" Under no circumstances will the plants, if spread to rot during the winter following their growth, become ready for the brake without exhibiting on the fiber a greater or lesser number of dark blotches, contagiously communicated from the decomposing elements of the underlying wood. We must, therefore, impute the beauty of color and strength of fiber peculiar to this process, to a different agency than extreme cold or snow. It is known that nitrogen, with its strong predisposition to decay, is present in at least two compounds contained in the hemp plant—its nicotina, which, when dissolved in the pool, poisons fish—and its volatile alkali, which causes the plant to emit so strong an odor. It is also known that when these are extracted by immersing the plants in water, the cambiose matter uniting the fibres of the bark, is decomposed before the slightest decay takes place in the woody part of the plant. The woody part, being white, tough and elastic, like a willow rod, (a property in the stalk which renders the breaking a labor so arduous,) whilst in the dew-rotting process, before this detachment of the fibres is effected, some of the elemenst composing the fluids of circulation have been changed in their combination, and thus seem to have formed an acid, which has, in a greater or less degree, blotched the woody part with dark spots, every one of which will stain the lint. White-rotting avoids this blotching of the wood and bark, mainly, I think, by ridding the plant of most of its elements predisposed to decay, through the agency of heat—just as the same ends are accomplished by water when the plants are immersed. That heat has the power to expel these elements, or to render them harmless by causing new combinations, will appear from considering a fact familiar to all experienced hemp-growers, which is this: it often happens that a bundle of hemp spread down the autumn after the plants were grown, will be taken up in January, with the top portion of the plants, which occupied the center of the stack when in bulk, of a bright buff color, whilst the lower portions of the plants in the same bundle are dark colored and ready for the brake. Now, if these bright portions be cut off from the other parts of the bundle, and exposed again to the rains and frosts, in time a rot is effected, and an article closely resembling water-rotted hemp is produced. In this case there is not the remotest doubt that the character of the bright portions of such bundles has been changed by the great heat generated in the stack, by bulking the bundles while the leaves were yet too damp. So it is with hemp, I think, kept in bulk more than one pear. Time sets free a large portion of what is volatile, and the heat generated, whilst the mass is going through a sweat, and sublimes or changes much of what remains. Certain it is, that the market value of this article is greatly above that of dew-rotted hemp, and it remains to be determined whether a management could not be devised increasing still more this value.

This process is attended in practice with but one serious objection, which is, that the additional time required to detach the fibres from the wood, in consequence of the indestructibility resulting from its changed character, often brings round the spring of the year before it is ready for the brake; in which event it becomes necessary to stack over and brake the following winter—for not only would breaking at that season interfere with the growing crop, but it is, itself, without a dry house, almost a work of impossibility. When the mean temperature of the day rises above the mean annual temperature of the earth, the dew falls freely, so that every day is like a rainy day in winter—unfit for breaking hemp. L. Young. *Louisville, Ky., Jan.* 1851.

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Pasture Land.—Every milch cow robs the land annually of as much phosphate of lime, (bone forming material,) as is contained in eighty pounds of bone dust. From this cause the Cheshire pastures became greatly deteriorated, but were restored to their former fertility by being well boned. Land continually depastured must be fed regularly with phosphates—by the application of bones, night soil, &c. Some descriptions of lime contain phosphates in sufficient quantity, but not all.

The Upas Tree.—We learn that a tree of this species has been brought from Java by Lieut. Marchand, of the Sloop of War St. Mary's, and has been presented to the National Institute, and is placed in the conservatory of that Institution at Washington. This is the tree, which, under the name of the "Bohon Upas," was formerly represented to possess such poisonous qualities that animals could not approach it, nor birds.

Memoir of Colonel Pickering.

EDITORS CULTIVATOR—Prompted by your suggestion, I have endeavored to prepare a sketch of the life and character of the late TIMOTHY PICKERING, for your Journal. From 1818 to 1828, it was my privilege to be often in his company, and to be favored with his instruction. My aim has been to give a general view of the prominent incidents of his life; and more particularly those which show the distinguishing traits of his character. As *a farmer*, especially, have I endeavored to present him,—because in this capacity I knew him best; and because, in this, he most delighted. Such anecdotes, as I learned from him personally, I have interspersed, because these are the illustrations of character most likely to be remembered.

If this attempt to delineate character, (an exercise altogether new to me,) shall meet your expectations, I shall be gratified. I have found it more difficult to say *little*, than to say *much*. And although some may think my admiration extravagant; I have endeavored, as far as in my power, to use the same words he would have used, under like circumstances; considering his model, both in life and writing, enough to satisfy any man's ambition. I am happy to learn, that his only surviving son, OCTAVIUS PICKERING, Esq., is now occupied in preparing a biography of his father—a work that cannot fail to interest every friend of virtue, and admirer of patriotism.

Very respectfully yours,
JOHN W. PROCTOR.

Danvers, Mass., Jan. 1, 1851.

TIMOTHY PICKERING was born at Salem, Mass., July 17th, (6th old style,) 1745. He died at Salem, January 29th, 1829, in his 84th year. His father, Timothy, descended through three generations of Johns, the first of whom came from England to Salem about 1630, and settled on an estate adjoining Broad-street, which has ever since remained in the Pickering family. He was a substantial yeoman, magistrate of the county, and deacon in the church. From him the subject of this memoir inherited those traits of decision, industry, and integrity, which were ever his distinguishing characteristics.

Cradled at a time when events most momentous were starting into being,—associated with those whose fortune it was to guide the destinies of his country,—his character was necessarily strongly marked by the incidents of the age in which he lived. There is a reciprocal influence between men and things; when great events happen, great characters are developed; but whether the events produce the characters, or the characters the events, can only be determined by a careful analysis of all the accompanying circumstances. This was peculiarly the case with those who figured conspicuously in the American Revolution, among whom TIMOTHY PICKERING will ever be entitled to a position in the front rank.

The first rudiments of education were acquired by him at the free school of Salem. At the early age of fourteen, he entered Harvard College, at Cambridge, and graduated in 1763, with marks of distinction. At this moment, the first glimmerings of the flame of Liberty began to kindle. He entered upon the study of the law, but never upon the practice, as a professional pursuit. He was early appointed a judge of maritime cases for the counties of Suffolk and Essex, in Massachusetts. In 1774, he was chosen by the people of Essex, as register of deeds, an office that had been holden by his uncle John, for many years. Bred, as he was, when resistance to oppression first assumed a distinct character; summoned as he was, to command, in opposition to the first armed movement of the enemies of his country, all the energies of his naturally ardent temperament were thus called into action. Coming forward just when the rumblings of the volcano were beginning to be heard, and the earth was trembling beneath, his discriminating sagacity directed his attention to the necessity of military science,—while his physical energies were admirably adapted to the illustration of its benefits. He soon became an adept in all of the art that was then known,—and a volunteer in instructing others.

When, in 1774, the act was passed by the British parliament, commonly called the *Boston port-bill*, that shut out the capital of Massachusetts from all trade upon the ocean, threatening the ruin of its business—and at the same time the seat of government was removed from Boston to Salem—the citizens of Salem, in town meeting assembled, regardless of their own interests, through Col. P., their *file-leader*, selected for this purpose, uttered these remarkable words, equally creditable to the head and heart of their author. "By shutting up the port of Boston, some imagine that the course of trade might be turned hither, and to our benefit. But nature, in the formation of our harbor, forbids our becoming rivals in commerce with that convenient mart,—and were it otherwise, we must be dead to every idea of justice, lost to all feelings of humanity, could we indulge one thought to seize on wealth, and raise our fortunes on the ruins of our suffering neighbors."

Having been invited by Gov. Gage, while the seat of government was at Salem, to a conference relative to the duties the colonies owed the crown, the Governor concluded, "Well, there are merchants who, notwithstanding all your agreements, will import British goods." To which Col. PICKERING replied—"They may import them, but the people will use their liberty to buy them, or to let them alone."

Immediately preceding the first hostile movements of the enemy, he was chosen to the command of the troops at Salem and the adjoining towns, and was ever afterwards familiarly known by the title of *Colonel*.

On the 19th of April 1775, in the morning, shortly after entering his *register office*, he was informed by an officer from Danvers, that the British were moving towards Concord. He gave permission to the captain to go ahead, and forthwith assembled his regiment, and led them to the scene of action, in season to meet the British on their return. *Seven* of his Danvers friends then offered their lives on the altar of their country as *a first sacrifice*. This sound judgment saved many others from a like sacrifice. We speak with confidence, in relation to these events, because we have heard them in minute detail from his own mouth; and from others who were actually engaged in the battle of Lexington. Soon after this he was called to the command of a regiment of volunteers from the county of Essex, he himself being the *first* to step forward; and joined the army under Washington in New Jersey. The discriminating eye of Washington, selected him for the office of Adjutant General, and of consequence as one of his own staff. Here, his accurate business habits and well cultivated intellect, made his services of great value. Washington always spoke of him in strong terms of confidence and approbation.*

* The following extract is from a letter that was addressed to the President of Congress by Gen. Washington:

"MORRISTOWN, May 24, 1777.

SIR—I beg leave to inform Congress, that, immediately after the

Upon the resignation of Gen. Greene, of his office of Quarter-master General, Col. Pickering was prevailed on to take his place. Those who are familiar with the events of the Revolution, will duly appreciate the difficulties of this position. What so good an officer as Greene, (and our annals afford no better name,) despaired of accomplishing, Col. Pickering undertook and carried successfully through,—and this not without much arduous service and personal hazard.*

At the close of the war, Col. Pickering changed his residence, from Salem to Philadelphia. Here his services were soon required, by the state of his adoption, in encountering threatening insurrection, and in the adjustment of conflicting claims to titles of land in the interior of Pennsylvania, in attending to which, he was exposed to many hardships, and had occasion for the exercise of much sagacity and firmness. One adventure, which we had from himself, will give some idea of the perils he had to encounter. On taking from his pocket, *a fine old English watch*, "This watch," said he, "is the only one I have carried for more than *fifty years*. I lost it, when captured by a band of ruffians in disguise, in the interior of Pennsylvania, (near where Wilkesbarre now is.) It was pulled from my pocket, as they dragged me across a hedge fence, in the woods, and there lay among the leaves and rubbish for several weeks. After my release from their imprisonment, it was found and brought to me. I have carried it ever since, in remembrance of that protecting Providence, which spared my life when in imminent peril." These words he pronounced with that reverential regard for an overruling Providence, which pervaded all his movements. A highly interesting narrative of the events that transpired, at the "beautiful vale of Wyoming," of which he might have said (*magna pars fui*,) was written by him in 1818, addressed to his son John—printed, but not published.

While resident at Philadelphia, he was called upon to attend to various important difficulties with the Indians. In fact whenever any Gordian knot was to be loosed, Col. Pickering was the man to do it. Impartial history will do him the justice to say that his resources of mind were equal to any emergency.

In 1790 Col. Pickering was a member of the convention called to revise the constitution of Pennsylvania. Here he manifested that sound practical common sense which never failed to convince those whom he addressed. The following article, introduced at his suggestion, providing for general education, will be a source of joy to many, in all coming time: "The Legislature shall, as soon as conveniently may be, provide by law for the establishment of schools throughout the State, in such manner, that the poor may be taught gratis."

From 1791 to 1800, Col. Pickering was engaged in the administration of the government, under Washington and Adams—successively at the head of the Post Office, the War, and the State Departments. Having held the office of Secretary of State for a period of five years, a train of circumstances arose, in connection with the then contemplated rupture with France, that made the harmonious cooperation of the President and his Secretary longer impracticable. Suffice it to say, that Washington and Pickering were of one opinion, and that Adams had different views. P.ckering was succeeded by Marshall—who alone was worthy to be his successor. Of these truly great men, it may well be said, *par nobile farlrum*.

Having served his country with great ability and untiring assiduity, and finding, as many of the best men have before found, that the intrigues of ambition were more successful than honest services, be they never so disinterested, he determined to withdraw from the political arena, to the more congenial scenes of an agricultural life; having, as was pointedly remarked by Virginia's shrewdest son, "been honored with the confidence of Washington and the enmity of his successor."

Aristides like, he had passed his years of active labor for the benefit of his fellow countrymen, with scarce a thought for himself or the wants of his numerous family. His attention was first directed to the forests of Pennsylvania, where he became a proprietor, and actually engaged in clearing for a settlement. But his Massachusetts friends would not suffer his "light to be hid under a bushel;" they knew his worth too well to suffer it to be buried in the recesses of the Allegh nies. By their generous kindness, an arrangement was made that relieved him from obligations, and enabled him to return to his native county, where another quarter of a century, if possible, of still more useful services, was in store for him. On his first return he rented a small farm in Danvers, four miles from Salem, where his intelligent operations, for the few years he lived upon it, were regarded with interest, and have ever been remembered as models for imitation. He then purchased a farm in Wenham, on which, for the most part, he resided, and the cultivation of which he superintended while he lived. Whoever may travel through this region, will notice, after passing the silvery water of the far-famed Wenham Pond, about one mile east of the church, a beautiful range of the *Scotch larch* tree, bordering the way for near half a mile. These were planted by Pickering's own hand, and were on the margin of his estate—constituting a monument, if not sc costly as marble, or durable as brass,—still simple and beautiful as his own pure character. From 1808 to 1811, he was Chief Justice of the County Court in Essex, the records of which period,

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receipt of their resolve of the 26th of March, recommending the office of Adjutant General to be filled by the appointment of a person of abilities and unsuspected attachment to our cause, I wrote to Col. Timothy Pickering, of Salem, offering him the post, in the first instance. This conduct, in preference of Col. P., I was induced to adopt from the high character I had of him, both as a great military genius, cultivated by an industrious attention to the study of war, and as a gentleman of liberal education, distinguished zeal, and great method and activity in business."

* Extract from Col. Pickering's letter, relating to the battle of Gormantown, dated Aug. 23, 1826:

"Be this as it may, the instant I received Washington's orders, I rode forward, and in the road, three or four hundred yards *beyond* Chew's house, met Sullivan, and delivered them to him. At this time I had never heard of Chew's house, and had no idea that an enemy was in my rear. The first notice I received of it was from the whizzing of musket balls across the road, before, behind, and above me, as I was returning, after delivering the orders to Sullivan. Instantly turning my eye to the right, I saw the blaze of the muskets, whose shots were still aimed at me, from the window of a large stone-house, standing back about a hundred yards from the road. This was Chew's house." (See N. A. Rev., vol. xxiii. p. 425.)

as well as the memories of the inhabitants, bear unmistakeable testimony to his practical good sense and discriminating judgment.

His ambition through life, was to be a farmer. His discriminating observation, and philosophic reflection, admirably fitted him for this employment. But his fellow citizens demanded of him something more. He was soon called to represent Massachusetts in the Senate of the United States, to which office he was twice elected. During this second part of the Revolution, commencing in 1812, he was Counsellor of State, and member of the Board of War. After this, he was twice chosen to represent his own native district in Congress; and what may seem extraordinary *in these times*, all these offices were bestowed upon him, without any solicitation on his part. True, they were not conferred *unanimously*, and while there exists *a right* and *a wrong* in the nature of things —*entire unanimity* is not to be expected. He was content to do what he believed to be right; and so far, even his opponents always conceded—although their notions of right might not harmonise with his. The history of this eventful period will bear testimony, that few men at the seat of government, were looked upon with more respect, or listened to with more attention. Such was the confidence that he commanded, if a variance was found between Col. PICKERING and the record, suspicion immediately arose that the record was wrong. Diffident of his own ability, and far from being dictatorial,—still, he never faltered when danger threatened. The more pressing the emergency, the firmer he stood. He was never afraid to do his duty, in the Senate or in the field. It has been said of him truly, that "on the farm, he was on a level with the farmer,—in the Senate, there was none his superior."

"From childhood to old age," says one who enjoyed the best possible opportunity to know him, "temperance, industry, sincerity, honor and truth, guided his conduct." If it would strengthen the testimony, we could with confidence reaffirm the assertion. He was uniformly straight-forward and direct in all his movements. Sinister influences found no favor from him. No one who knew him would dare to intrude them.*

(*To be continued.*)

Progress of Agriculture.

Improvement of Domestic Animals—No. 3.

KNOWLEDGE of the characteristics and properties of different breeds of animals, and of the means of improving and adapting them to special purposes, has been greatly increased within a century, and more strikingly so within the last fifty years. Before Bakewell commenced his career, (about 1760,) the breeding of animals on systematic rules, if not entirely unknown, was but little practiced in Europe or America. It is true, that the Arabians had, long before this, brought the horse to a high degree of perfection; but their rules of breeding, as well as the breed itself, were most scrupulously confined to their own people. Bakewell, too, it may be said, observed as much secrecy as possible; but his practice was in a great measure open to observation, and his numerous examples of improvement were the means of attracting attention from all parts of the civilized world. The result has been an astonishing advance in this department, although a knowledge of the principles on which it has been made, is still, especially in this country, too much restricted.

Most farmers are convinced that there is a great difference in the constitutional properties of animals of the same species. The idea that "the breed goes into the mouth," is nearly exploded. It has been clearly proved that some pigs, for example, are capable of making a much greater increase of weight than others of a different breed, from the same amount and quality of food; and the same has been demonstrated in regard to cattle and sheep. It is apparent, also, that the peculiar properties of different breeds of animals, adapt them to particular climates, soils, and purposes. This is an important principle, on the proper observance of which the success of the farmer, in regard to his live-stock, greatly depends; and it is now much better understood and applied than in former years. It is known, for instance, that the breed which may fatten to the greatest extent on a given amount of food, when confined in a stall or pen, or allowed the range of the richest pasture, may not have sufficient muscular strength and hardiness of constitution, to render it profitable under the effects of a severe climate, or where much exercise would be required. By knowing the properties of different breeds, the farmer is able to select such as are best adapted to his circumstances and wants. He sees that the leading property of one breed of cattle is to furnish the largest quantity of milk for the food consumed; that of another, the largest quantity of butter; a third, the largest amount of flesh and fat. He sees that no one breed combines all these properties in so high a degree as they are found in different breeds, and his selection must, therefore, be made according to what is to be the primary object, and with due regard to the adaptation of the stock to the situation and climate.

More correct ideas than have heretofore been entertained, now prevail in regard to the proper conformation of animals. It was early noticed by close observers, that there was a correspondence between the shape of animals and their style of motion. The horse, the deer, and the greyhound, were seen to run with great celerity; and on comparison it was found that those animals which most nearly resembled them in form, approached nearest to them in speed. A knowledge of anatomy and of the principles of animal locomotion, has illustrated this; the motions of the animal machine are shown to be governed by ordinary mechanical laws. Understanding these principles and laws, no man chooses the cart or dray horse to run a race, or puts the deer-like race-horse to heavy draft. The difference in action results mainly from different anatomical structure, based on the well-known mechanical laws, that speed and power are antagonists, and that in proportion as the one is gained the other is diminished. It is true, that this law, in its application to animals, is subject to some modification from what is called nervous energy, but the principle of motion is unchanged.

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* The late Hon. John Randolph, of Roanoke, Va., said of him, when he had been speaking of his situation in the world, and describing his efforts for the benefit of others, to the neglect of himself, and his eyes filled with tears and his voice faltered, at the mention of his comparative poverty,—"I thought I would have given the riches of Dives himself, for his feelings at the moment; for his poverty was not the consequence of idleness, extravagance, or luxury—it was an honorable poverty, after a life spent in a series of laborious services, in securing the Independence, and establishing the Constitution of his country."

In regard to sheep, it is well understood that there is a great diversity of characteristics. Some breeds produce wool approximating in fineness to the fur of the beaver, remarkable for its felting properties, and susceptible of being wrought into broadcloths of the finest descriptions. Others produce rather hair than wool, the pile being destitute of felting properties, and incapable, on this account, of forming fabrics of the same character as the former. Between these, there is every grade of quality produced by different breeds, each adapted to a specific use. The long wool of the Leicester, Cotswold, and Lincolnshire, is as useful in its way, as the short and fine staple of the Merino.

And so, too, in regard to other properties of the different breeds, there is an adaptedness to different situations and uses. Some are fitted for fertile valleys and smooth, rich fields; others, of more natural activity and hardiness, to rougher pastures and more exposed districts. There is an equal variation, also, in the properties of the different breeds for fattening, and the quality of their mutton. The Leicester, for instance, matures early, and fattens easily; but makes but a small proportion of lean to the fat. The South-down is longer in arriving at maturity; but has more muscle in proportion to the fat, and affords mutton of a finer quality. The Merino, in all its varieties, is valued chiefly for its wool; as it is not so much disposed to fatten, and does not give so good a quality of meat as some of the British breeds.

A knowledge of the peculiarities of the different breeds of animals, has led to their proper classification and adaptation to those purposes and situations to which they are best suited. This has been done in a striking manner in England, and is beginning to be most successfully adopted in our own country. Chiefly within the present century, several of the most esteemed European breeds of horses, cattle, sheep, swine, and poultry, have been brought to this country, and are now propagated here with advantage. The introduction of the Merino sheep, alone, has been an acquisition of inestimable value to the United States. Previous to 1801, these sheep were unknown here, and though they were for sometime opposed by the prejudices of our farmers, they have been extended over the whole country, and have for several years been the source of an annual revenue of many millions of dollars.

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Barley and Malt.—Late experiments have settled the question as to the inferiority of malt to barley in feeding cattle. Barley in the process of malting loses about seven per cent. of highly nutritive substances, and thus is its nutritive power diminished. But in malt there is a peculiar substance found, generated in the malting process, and of high solvent power, which greatly aids the digestion of other food, even when such malt is given in small quantities. One-tenth part of the barley devoted to feeding stock may be used in the shape of malt. A small portion may be given, as a digestive, with dry food. A smaller portion still with moist food, like potatoes, may be given: the digestion will thus be improved, and the health of the animal insured; while even in man the mastication of a little malt after meals would contribute to the digestive process.—*Lecture on the properties of Food.*

The Pursuit of Knowledge under Difficulties.

Analytical Laboratory, Yale College, *New-Haven, Conn., Jan.* 27, 1851.

Messrs. Editors—I place the above sentence at the head of my page, as the subject of the present letter. It is one which I have somewhere seen illustrated in a humorous manner that has often served to recall it to remembrance, and to provoke a smile, when otherwise the feeling excited might almost have been of a melancholy character. Within the past few years, or since my main object has been to promote the advancement of improved agriculture, the "pursuit of knowledge under difficulties" has frequently arrested my attention. It has been exemplified in the shape of some worthy farmer, old or young, who has turned away from his plow and team for awhile, and is toiling manfully to climb some steep scientific hill, or painfully striving to fathom an obscure valley of learning which has suddenly opened in his way. No toil in the field under the glowing heat of harvest, has ever exhausted the sturdy frame, as have these intellectual efforts and struggles; the venturesome agriculturist has left the region of facts and substantials, and has penetrated into a land where all is unknown; now half stifled by ammonia, with an occasional whiff of other highly nitrogenous bodies, he labors on toward, as he fancies, some glimpses of certainty, but just as he plants his foot firmly, is overwhelmed by a cloud of ashes in the form of inorganic manures. He plunges for relief into an open drain, but soon finds that he must submit to the compression of a pipe tile, and perhaps be employed in irrigation. His hair stands on end as he peruses even the names, of the awful substances which are described as constituting what he has heretofore looked upon as simple turneps and potatoes, and his own respiration becomes impeded as he thinks of the combustion that is going on in the lungs, and the transformations in the stomachs of his friends and neighbors, after one of those hearty meals that he has so unthinkingly shared with them before.

But these are only a tithe of the difficulties which beset the daring individual who strays away from the old track. He studies and perplexes himself over a theory or principle till he has become confident that he sees through it completely, and prepares to put it in practice; he is full of the subject, and even imparts his expected success to his incredulous acquaintances; but alas for his confidence, some other writer comes forth with his views upon the same topic, and very probably contradicts point blank all that the first one wrote, and leaving the unhappy farmer in a state of doubt and perplexity that is truly distressing. But perhaps he is a man not easily disheartened, and turns to some other taking theoretical proposition,—here he has at last found what must be correct, and now he is to reap the reward of his superior skill in opening this new way to wealth; unfortunately however, he very probably finds once more upon actual trial, that even scientific men are fallible; the crops that were to grow on a particular kind of food, most obstinately refuse to flourish at all; the chemically prepared fodder proves distasteful to the unscientific tastes of his animals, or if they do continue to eat, they utterly refuse to grow fat upon it, except at an expense which makes their old food cheap in comparison.

The unlucky martyr to science, or to pretended science, finally gives up in despair. and henceforth settles down into a most determined opponent of carbon, nitrogen, silica and potash; they may do for those who have opportunity to know what they really are, but for him they are a kind of phantoms conjured up by book writers, to haunt the repose of honest, straight forward farmers.

Our friend after all, however, has yet perhaps a species of lingering desire towards science; he has bolted once from the old courses, and finds it hard to jog on in the beaten track as before. Suddenly he receives a new illumination—it is all clear now—the difficulty has been that he did not comprehend all of these scientific terms and explanations sufficiently well to know exactly what he was doing, and an agricultural school is therefore evidently the thing that is needed; here he is told, everything will be taught for nothing; the farmer will be a chemist, veterinary surgeon, physiologist, geologist, &c. &c., all in a few weeks, and will be able to examine and investigate for himself without any foreign aid. These enemies with hard names, will at last be brought under the farmer's power; he need only go to this workshop of science, and he will be turned out in a few weeks completely armed at all points. He will have a full commission to torture nature, and compel her answers to every question. He can return from his day's work, and in place of toasting apples and cracking nuts as of old, will cook his own soils over his own fire, and separate all of their parts just as easily as cut a turnep into slices. Farmers will meet together in the evening, not to talk as now, about the markets, but to compare the properties of their acids and alkalies, to speculate upon some new theories of vegetable physiology, and to wax warm in discussing the relative merits of phosphoric and sulphuric acids. The agricultural school is to be the grand panacea for all difficulties and complaints incident to the pursuit of agriculture; when it is established, we shall have no more poor crops, no more unthrifty animals, no more worn out land; the great problem of giving everybody everything, seems at length likely to meet with a solution. Thus our friend, whom we have followed through a portion of his trials, seems likely at last to arrive at a satisfactory end of his labors, and to have pursued knowledge through difficulties, until in his own estimation at least, he has fairly caught it.

For my own part, I am by no means certain that he has entirely succeeded,—that is in such a sense as he himself considers; my belief is that this school from which he hopes so much, will in its turn disappoint his expectations, as they have been so often disappointed before. He will find that even after he has graduated with all the honors, that crops will still go wrong, that manures will fail, and that he often meets with questions which all of his science is incompetent to answer; his very calves and pigs will propound puzzles of the most perplexing character, which neither his laboratory nor his books can solve.

But it will not answer to leave our friend in this condition. An interest in the object of his pursuit prompts us to offer, if possible, some alleviation to this final disappointment.

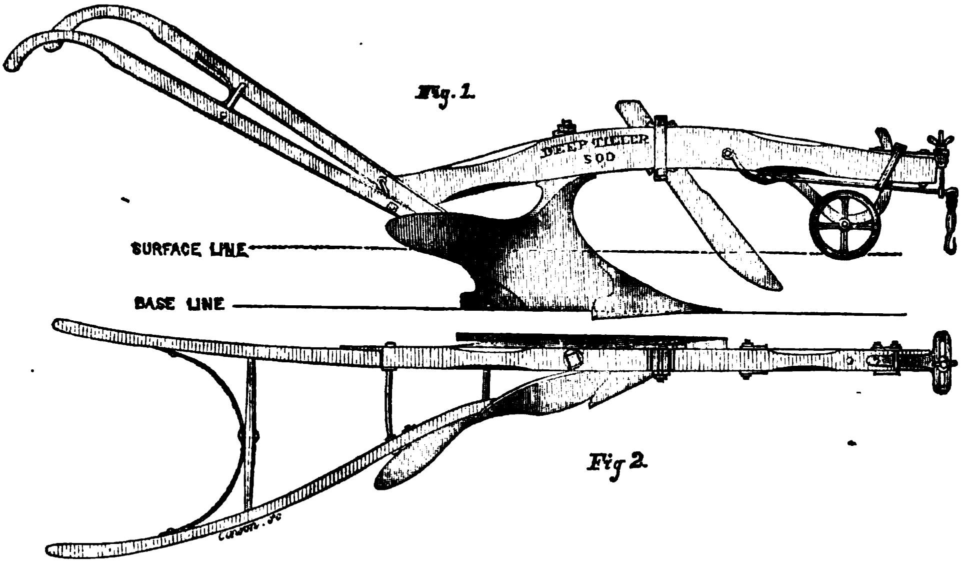
All must now see what I mean, when I speak of the farmer's "pursuit of knowledge under difficulties," and although the nature of his trials may provoke a smile, yet they are real, and in their consequences, moreover, are fraught with matter of deep import to the prosperity of our country. Since it is becoming popular to exalt science in its applications to agriculture, this department has been seized upon by many incompetent men. Between those who are really scientific authorities and those who are not, the farmer cannot distinguish; sincerely desirous to learn, he commits himself blindly to the guidance of the nearest or first guide that is available, or that offers, and frequently suffers severely in consequence.

First, a quack propounds to him a false but dazzling picture of success; then some misguided enthusiast carries him forward to still wilder plans, and if a man of sense and really good acquirements, ventures to contradict either, it is at the risk of losing his reputation and standing among those who look at him as only on a level with his ignorant opponents, and who consider all scientific, that bear the name or assume it.

The farmer is overwhelmed with new theories, each more valuable than all of its predecessors; now he is to use one kind of manure, and neglect all others; next he learns that this first is of no use, but that another is infallible; one writer says that open fields and deep plowing are cardinal points in the rules of the good husbandman, but a second assures his reader that if he can shade his land enough he need care for little more. What is to be done? Every man of sense becomes, after a time, disgusted with these contradictions, and retires in utter despair of obtaining the knowledge which he really desires. The editors of our agricultural papers are not free from blame in this state of things; many of them publish, either from ignorance, or want of independence, every mass of crude notions that is sent them, and thus help to confuse, still more effectually, the plain seeker after truth.

And now they have seized upon the last hope of the farmer, the agricultural schools, and are doing everything that can be done to dishearten and discourage their true and rational friends. I have not done justice at all to the ludicrous and absurd plans that are proposed, and the expectations held forth to our agriculturists.

These schools instead of being as they should be, places where the simple truth might be taught without fear or favor by really competent men,—places where the farmers might learn the great principles of their profession without being confused and confounded by half a score of contradictory theories, are to make thoroughly scientific men of all that even put a head or a hand within their gates, and the farmer's boy in a few weeks, is to do what men with hard study cannot accomplish in less than years. I do trust that we are not, in addition to our present obstacles in the way of safe and certain progress, to be overrun with half educated chemists, mineralogists, and pretenders to science, as graduates from such schools. Better by far not have them at all, than on such a plan as will add to the many difficulties and perplexities which the earnest inquirer after knowledge is now obliged to encounter. Yours truly, John P. Norton.



Ruggles, Nourse, Mason & Co.'s Furrow Plow; No. 72—Furrows 7 by 11 and 12 inches.

Of Plows and Plowing.

Editors of the Cultivator—When I began farming, I found that my lands had never been plowed over four to five inches deep. By long use of the plow, and the oft-repeated pressure of the cattle's feet in furrows of this depth, a hard crust or *pan* had been formed, through which the roots of the grasses and other crops did not penetrate. Not being able by my own reflections to discover any good reason why the roots of my crops should be confined within so narrow limits, and finding that the standard authorities in agriculture almost invariably recommended deeper plowing, I resolved at once to give the crops a greater range of pasture. Each field, in its regular order, was accordingly broken up six inches deep. The additional soil thus brought to the surface was allowed to remain there, subject to the influences of the atmosphere, and of good cultivation. When the fields were ready for the next rotation, I found the roots of the grasses had extended just as low as I had plowed, and that, to all appearance, the soil was of uniform quality to the depth of six inches. This state of things pleased me so well that I determined to plow still deeper; and the fields were accordingly broken up seven inches deep. It is true, the appearance of the surface of the inverted furrows was rather suspicious and forbidding; but I had hopes that the agents that had operated so kindly before would act favorably again. They did so; and the crops were satisfactorily increased At the time for the next rotation, I found the grass-roots had penetrated and formed themselves into net-work just as low as I had plowed. I had now become well satisfied that deep plowing was better for me than shallow plowing; and I have accordingly been slowly but constantly deepening the soil, until portions of the fields bear a furrow nine inches deep; and as many grass-roots will now be seen at this depth as were formerly seen at the depth of six inches. The crops are good; for their roots can now strike deep, and expand, and luxuriate, and gather up nourishment, in formerly forbidden boundaries.

I think it may be said, generally, that deep plowing should be the rule, and shallow plowing the exception. It is true, that some soils may never, under any circumstances, bear as deep a furrow as others; then, again, where the surface soil is by nature very thin, and the subsoil is very poor, the process of creating a fertile soil eight inches in depth is a work of time, patience, and skill; and though it be the work of a life-time, it may yet be a very profitable work. But the soil of by far a majority of our farms may be deepened an inch or so at a time, if accompanied by liberal manurings and good cultivation. In other words, a suitable range for the roots of our crops may be obtained in a few years. In no case, however, should the surface plow be plunged into a poor subsoil at hap-hazard.

As soon as I was ready to turn sod-furrows seven inches deep, my plows began to be troubled to carry themselves erect and do as good work as at six inches deep. At eight inches deep they did not do nice work, and at nine inches deep they could not work at all, until I added some contrivances of my own.

About a year ago, I called upon Messrs. Ruggles, Nourse, Mason & Co., and upon stating the difficulties I had experienced with my plows, they remarked that there was quite a growing demand for plows for deep work; and they at once evinced a most commendable readiness to undertake such a series of experiments, regardless of expense, as should enable them to supply, in the best manner, this demand of an advancing agriculture. They made a plow that gave me satisfaction, for it could turn a furrow a foot deep, and it did not choke under the beam. The making and trial of this plow suggested further improvements, and these in turn led to others. The various experimental trials may be summarily stated as follows:

1. To make a plow to turn furrows ten to twelve inches deep, and to turn them without choking under the beam.

2. To make a plow to turn deep furrows, requiring the least practicable width in proportion to the depth of furrow.

3. To make a plow to turn deep narrow furrows, and to turn them on so easy a line of transit as to prevent breaks in the furrow-slice.

4. To make a plow to turn deep narrow furrows on the easiest practicable twist, and to lighten the draught of the plow whenever it could be done without detriment to the best work.

5. To make a series of sizes of plows for turning flat furrows, seven, nine, and twelve inches deep, each plow proportionately combining the above specifications.

The experimental trials also led to the production of two sizes of plows for adhesive soils, laying lapped furrows at an angle of 45°; and two sizes of plows for turning stubble furrows.

Fig. 1, represents a furrow-side elevation of the No. 72, or smallest size of the new flat-furrow plows, and fig. 2, a horizontal plan of the same. In considering the remarks I offer upon the No. 72 plow, it will be borne in mind that plow No. 73, for furrows nine inches deep, and plow No. 74, for furrows twelve inches deep, each possess the same general form and working properties of No. 72. They are each constructed upon the principles of an ingenious scale, the lines of which, as applied to the mould-boards of the three plows, are relatively the same throughout.

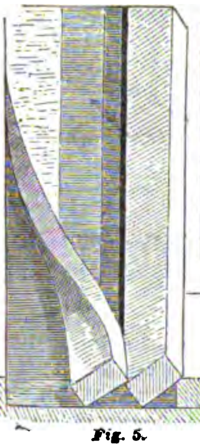


Fig. 5.

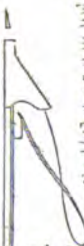


Fig 3

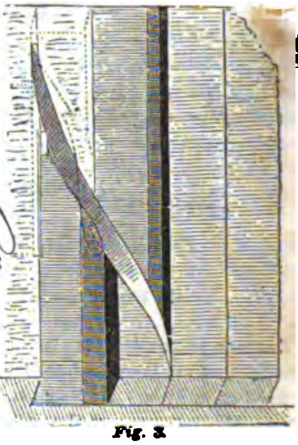


Fig. 2.

Fig. 1, represents the handles as long and *raking*, which gives the plowman a powerful leverage, and an easy and accurate control of the implement; the beam is high, and arches well over the coulter, to permit loose grass or other loose matters to pass off, and the plow to swim clear; the coulter is consequently long, and is made wholly of steel, to give it the requisite stiffness; the wheel, or roller is nine inches in diameter, to prevent laboring and creaking on the axis, and it is set under the beam, experiments the past summer indicating that a wheel on the side of the beam gives the plow an unsteady movement; a wrench accompanies the plow, adapted to the adjustment of the coulter, roller, clevis, &c.; the draft rod is short, connecting with the beam forward of the coulter, in order to preserve the space under the beam in that region entire; the quadrant or clevis attached at the end of the beam, through the bolt of which the draft-rod passes, is adapted to give the plow any desired *landing* or *earthing*; the mould-board is long, the line of transit over it for the furrow-slice, is easy, giving the slice a long, easy, and equal curvature throughout.

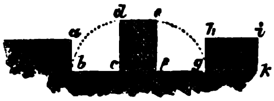


Fig. 4.

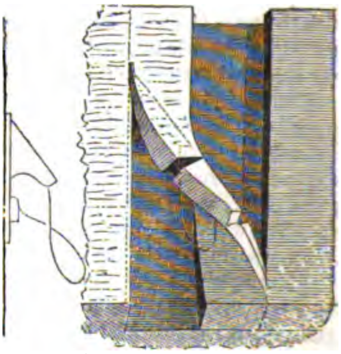


Fig. 6.

Fig. 2, shows the inclination of the land-side, and the coulter has a corresponding inclination. Fig. 2 also shows the position of the beam over the body of the plow. The share and lower parts of the mould-board are narrow, and the mould-board is high, to adapt the plow to deep, narrow work. The share is long, with a raking cut, which gives it an easy entrance into the ground.

Fig. 3, represents pretty well the movement of a furrow-slice 7 inches deep and 11 inches wide, over the mould-board of this plow, and its final position after leaving the plow. The easy transit and the equal flexure of the slice, are noticable. By means of the inclined land-side and coulter, the slice is cut off the land upon a bevel, which very much facilitates its dropping in snugly beside the previously turned slice. It will be observed that the width of cut made by the share is such as to leave a good hinge uncut, upon which the furrow holds its proper position at the bottom, while the top is describing a quarter of a circle to reach the perpendicular position, at which position the plow has ripped off the hinge. If the slice were cut entirely off by the share, it would be apt to push off at the bottom so far as to fail of being turned over to its proper position,—in other words, a wider furrow would need to be taken to turn well.

Fig 4 shows that, theoretically, a furrow cut straight from the land will shut in beside the previously turned furrow. The furrow slice, e, d, e, f, is cut straight down at a, b, and rising on the corner c, as a pivot, it describes a quarter circle, b, d, and then changing to f as a pivot, it describes another quarter circle, e, g, and shuts in snugly beside the previous furrow, g, h, i, k. But in practice it is difficult to make the furrows do so; they are very apt to ride on the corners, as represented by Fig. 5. With an inclined land-side, and a bevil-cut from the land, this practical difficulty is avoided.

Fig. 6 represents the movement of the furrow-slice over an imperfect mould-board. It will be observed that the plow is too wide on the bottom to take a narrow furrow, and if the attempt is made to turn a 11 inch furrow, there is no hinge left for it to turn on. The mould-board is so short, and wings over so excessively, that the fur-

Fig. 7.

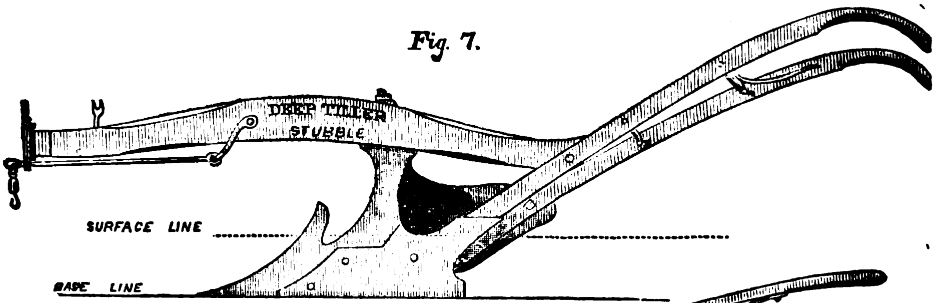
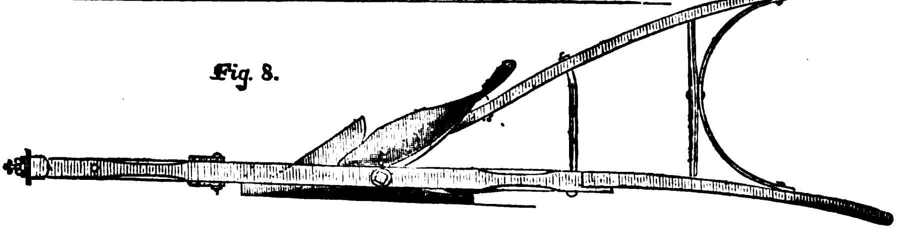


Fig. 8.



Ruggles, Nourse, Mason & Co.'s Stubble Plow, No. No. 37.

row-slice is cramped into an unnatural movement, and is badly broken. The plow is also too low every way for a seven-inch furrow, and is completely buried. We find in practice that such plows can only be kept erect in furrows seven inches deep, by constant, laborious exertion on the part of the plowman; that they have a constant tendency to ride the furrow at the point where the mould-board wings over so much; that the heel of the land-side sole is lifted an inch or two from its proper level position in the furrow-channel, and that the plow inclines very much to run on the point of the share. Many of our American plows are too wide on the bottom for narrow furrows, too low in the mould-board for deep furrows, (or furrows seven inches deep,) too short for turning any furrows perfectly, and too unsteady in their movements generally.

Fig. 10

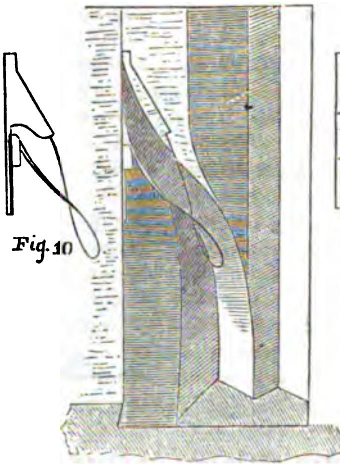
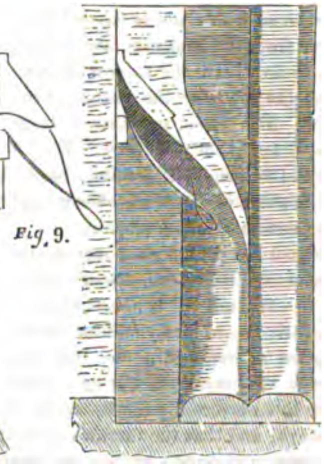


Fig. 9.

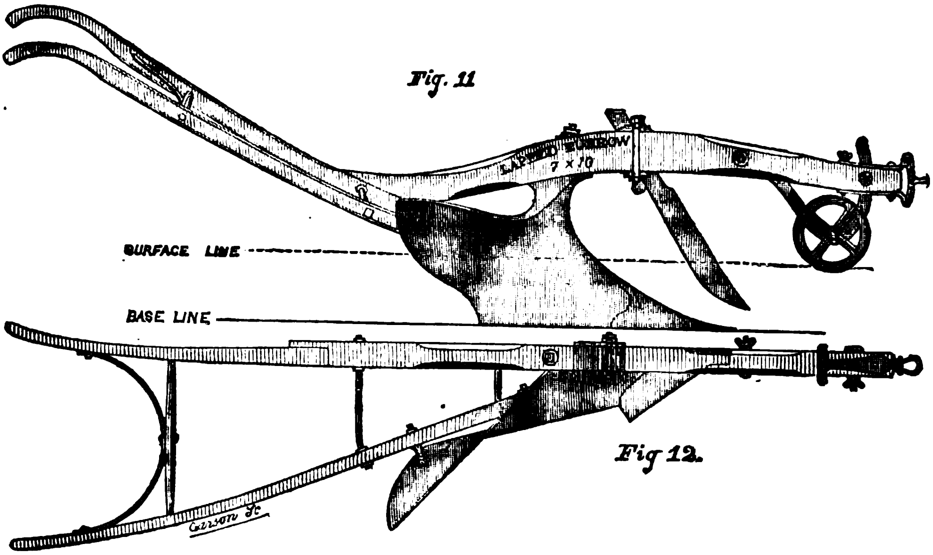


It is a too common custom with our farmers in plowing, to strive to get over the greatest possible breadth of land in a day, without regard to the best work. The furrows are too shallow, and they are cut as wide as the plow can possibly turn them, and often even wider, the deficiency in the plow being made up by the foot of the plowman, or else by the "cut and cover system;" and this gives the plow a very unsteady action; the furrows are very crooked and uneven; they do not match together at all well; the plowman raves and scolds and whips; he assumes all sorts of attitudes, the team is chafed and fretted, and the whole matter is wrong. It is much harder work both for man and team to plow so, than it is to take nice, straight, uniform furrows. But this is not all the evil. The implements that follow the plow cannot do their work half so effectively as they would do if the plowing had been accurate and nice,—much less can they do what should have been done by the plow. There is no work in the whole round of husbandry that more demands the exercise of patience, precision and skill, than that of plowing,—none, where, by the exercise of these qualities, the farmer receives a better reward. That old worthy, Jethro Tull, in his honest enthusiasm used to say, that if land were thoroughly pulverised, manure would not be needed. He stated the case pretty strongly; but it is not stating it too strongly to say, that however well land may be manured, the crops it is *capable* of producing will not be obtained, unless it is well pulverised—unless it is reduced to that state of tilth that permits a free circulation of air and moisture through it. Not the thick heavy clods, but rather the finely pulverised particles form the active portions of the soil. In whatever light, then, we view the matter, thorough pulverisation should be the aim of the farmer. *Deep narrow* furrows are the best foundation for fine tilth. If the plow has failed to prepare this foundation in the best manner, no implement following in the cultivation can supply the deficiency.

Fig. 7 represents a land-side elevation, and fig. 8 a

Fig. 11

Fig 12.



Ruggles, Nourse, Mason & Co.'s Plow for Lapped Furrows—Furrows 7 by 10.

plan of stubble plow, No. 37. There is a larger size, No. 38, adapted to deeper work than the plow here represented. The surface-line, Fig. 7, shows the position of this plow in a seven inch furrow. The handles are of good length, though shorter than those of the No. 72 plow; the beam is high and arching; it is mounted with a short draft-rod and a dial-clevis, adapted to give the plow a wide range, both in *landing* and *earthing*. The perpendicular height from the base-line to the under side of the beam, immediately forward of the standard, is seventeen inches, which enables the plow to make its way among rank stubble, corn-stalks, &c., without choking. The fin-cutter is an excellent point in this plow. By making an easy, clean cut from the land, the furrow is not encumbered with clods of earth rolling down from the land-side, as they are apt to do where the furrow is torn from the land by the breast of the plow. The fin-cutter also lightens the draught of the plow. Fig. 8 shows the form of the mould-board, the position of the beam over it, and the position of the land-side.

Fig. 9 is a pretty good representation of the work of this plow in stubble or old land. It is noticeable that the furrows are nicely laid for the reception of the seed-grain; that the furrow-slice is all taken up and forced over to an inverted position and there it stays; and that the furrow channel is entirely cleaned out for the reception of the next furrow. It is impossible, however, to represent these practical matters exactly, on paper; we can only represent them generally.

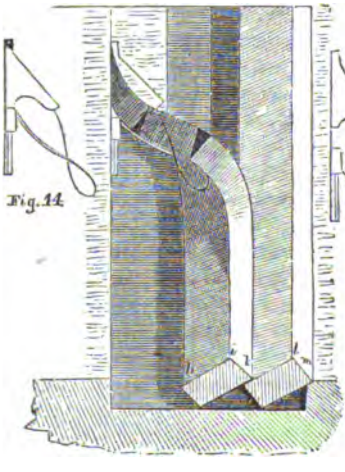


Fig. 14.

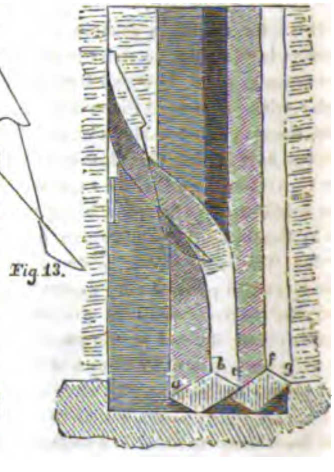


Fig 13.

Fig. 10 represents the work of an approved sward plow, in stubble furrows. It is not broad and full enough at the heel to clean out the furrow-channel. Then, too, after the furrow-slice has reached the perpendicular position, there is not force enough in the mould-board to compel the slice to go over to its proper place, and as there is not cohesion enough in the slice to hold it together, a portion rolls one way, and a portion the other. The centre of the furrow on top is therefore the highest, the furrow-channel is half filled up, and the work generally will not compare with that done by the stubble plow No. 37. The stubble plow No. 37, would not make nice work in sward-furrows; it would break them too much.

Fig. 11 represents an elevation and Fig. 12 a plan of the new sward plow for moist adhesive soils. There is another size, for furrows nine inches deep, of the same general form and proportions with the one here represented. The handles, Fig. 11, are long and raking, the beam is high, giving a space of seventeen inches forward of the coulter, and the plow is mounted with a Scotch clevis, the adjustment for *earthing* being represented in Fig. 11, and that for *landing* in Fig. 12. The general outline of the mould-board is very well represented in Fig. 12. The share is narrow, the wedge-power great, and the back part of the mould-board is adapted to place the furrow-slice exactly at an angle of 45° before leaving it. The land-side is perpendicular, and the coulter stands in a range with it.

In considering the form and proportions of a plow best adapted to the working of stiff heavy soils, Messrs. R., N., M. & Co., have thought that plow the best that will cut a perfectly rectangular furrow, whose depth is to its width as two is to three, and lay it at an angle of 45°. The plows for stiff lands that they now offer the public, are adapted to work as above specified. They combine the best working properties of the celebrated Scotch plow invented by Small, with the lightness and cheapness of the American plow. The lines of the scale from which these mould-boards are fashioned, give the mould-boards a slight convexity of surface, which is considered an advantage in the working of tenacious, unyielding soils; but the lines may be varied to straight lines for medium soils, or to concave lines for light sandy soils. The line of transit for the upper edge of the furrow-slice, is adapted to the delivery of the slice with an unbroken crest. The mould-board presents a uniform resistance to the furrow-slice, and will brighten uniformly over the entire surface, however tenacious the soil may be.

Fig. 13 represents the action of this plow in furrows seven inches deep by ten inches wide. The plow enters the ground very easily, a good hinge is preserved upon which to raise the furrow-slice to its perpendicular position, the back part of the mould-board lays the slice at an angle of 45° before leaving it, and the two exposed faces of the slice are of equal breadth,—namely, seven inches.

Fig. 14 represents the action of a plow unadapted to laying proper lapped furrows. The plow is so wide upon the bottom as to require a width of furrow-slice of at least twelve inches, and yet it cannot go more than seven inches deep,—indeed it can hardly do that, without crowding over to the left or land badly, and it cramps and breaks the slice very much. But the slices are of unequal proportions. The width is too much for the depth, and, consequently, so flat a surface is formed, that if the furrows are to lie exposed for some time to the weather, and if the soil be a stiff adhesive clay, it will run together and bake so much as to render the harrow quite inoperative, and but a shallow seed-bed will be raised. The spaces underneath the furrows are wide and low, and they will be apt to fill with soil, which will prevent a proper circulation of air, and a free passage of surperfluous moisture, and the surface will be apt to be wet and heavy.

The triangles, abc, efg, Fig. 13, are of equal sides, and the angles, b, f, are angles of 45°. The triangles hik, klm, Fig. 14, are of unequal sides, and the angles, i, k, are angles of only 86°. If we suppose a series of *sections* of these 7 by 10 and 7 by 12 furrow-slices, each extended to ten rods, for instance, in width, and that they are one inch thick, we shall find upon a calculation of the aggregate exposed surface of each, that the furrow sections, 7 by 10, of equal faces, have exposed 2791 inches of surface to the air, while the sections, 7 by 12, of unequal faces, have exposed but 2722 inches; and any one who chooses to extend the calculation and comparison to an acre of ground, will find the balance to be very much in favor of the slices represented in Fig. 18. A like comparison of rectangular furrow-slices, whose depth is to their width as two is to three, and which are laid at an inclination of 45°, with furrow-slices of any other form, or proportions, that are practicable to be laid, will be found to result in favor of those first-named;—indeed it can be shown that no furrow-slices but rectangular ones, whose depth is equal to two-thirds their width, *can be laid at an inclination of* 45°; and since it can be proved that rectangular furrow-slices, whose depth is equal to two-thirds their width, and which are laid at 45°, present the greatest surface to the ameliorating action of the atmosphere; and since it can also be proved that such furrow-slices present in their projecting angles the greatest cubical contents of soil for the harrow to operate on, in raising a fine, deep tilth, or seed-bed, and that such furrow-slices have the best spaces for the circulation of air, and the passage of water, underneath them,—we may conclude that all plows, for laying lapped-furrows in heavy adhesive soils, are absolutely faulty in just so far as they fail to cut rectangular furrows, whose depth is to their width as two is to three, and to lay them at an inclination of 45°. I would give unerring mathematical demonstration of these points, were it not that I should be extending an article already too long.

I intended, Messrs. Editors, to have said something about the importance of each radical improvement in the plow, in increasing actually the wealth of the country, not only directly by the increased crops to be derived from improved plowing, and the direct saving of expense in doing the work, (a good plow, saving time and labor,) but, indirectly, by exciting in the farmer's mind a new degree of pride and ambition to farm it better every way. But my article is already too long, and I forbear. F. Holbrook. *Brattleborough, Jan.* 29, 1851.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Inquiries and Answers.

Mr. Editor—Will you please name a list of early bearing varieties of the apple of the different seasons? (1.) There are reports in circulation in the West that the Northern Spy is subject to the bitter rot, which, though I have utterly doubted, I should like the certainty of? (2.) Does the Red Canada compare in value, both tree and fruit, with the Esopus Spitzenburgh? (3.) In applying salt to kill the large white grub, should it be left on the surface or plowed in? (4.) What is the best Book on Soils, and the general relations of Geology to Agriculture? (5.) F. K. P. *Delevan, Wis.*

(1.) Early Red Margaret, Red Astrachan, Sops of Wine, Drap d'Or, Late Strawberry, Hawthorndean, Fall Orange, Dutchess of Oldenburgh, Dyer, Porter, Summer Sweet Paradise, Bullock's Pippin, Wine Apple, Downton Pippin, Baldwin, Williamson, Jonathan. The following usually begin to bear early, but produce rather thin crops for the first few years:—Early Harvest

Gravenstein, Rhode Island Greening, Tallman Sweeting.

(2.) Like many others of our finest apples, it is sometimes very slightly affected, but on the whole few are more free from the bitter-rot, so far as yet tried.

(3.) If compelled to choose between them, we should take the Red Canada. Its flavor is more agreeable, though scarcely so rich as the Spitzenburgh; and although a slender grower, bears better.

(4.) We have no knowledge on the repelling influence of salt on this grub. If it has a cuticle like that of the cabbage-grub, salt cannot affect it much, as some years ago in an experiment to save the cabbages, it was found after having eaten its fill, to be reposing unhurt in the bed of salt encircling the plant, with all the indifference of a philosopher.

(5.) Norton's Elements of Scientific Agriculture.

Fruit Trees To Supply a Family.—"How many trees, and in what proportion for the different kinds, would be a fair number to supply a family of ordinary size, with a good supply of fruit?" *P. W.*

This is a question which admits of a great many answers, as the domestic habits of a family, nature of the locality, soil, treatment, &c., may vary. But taking the different circumstances at a fair average, and admitting that good cultivation is to be given, one hundred trees ought to be sufficient. With carelessness or inattention, two hundred might not be enough.

A family should be supplied with fresh fruit throughout the whole yearly circle, and therefore there should be a large proportion of long-keepers, which are only to be found among the pears and apples. If the varieties are well selected, and with a proper distribution for a succession in ripening, the following numbers of each would probably effect the desired purpose as well as any:

30 apple trees,
20 pear trees,
12 peach trees,
10 cherry trees,
10 plum trees,
6 apricots,
4 nectarines,
5 quinces,
8 grape vines.

If, in addition to the above, a few square rods were occupied with strawberries, raspberries, and currants, they would afford a good supply of most grateful delicacies through the first half of summer.

Mice.—A correspondent wishes to know the best way to protect trees which have been *laid-in* in quantities for the winter, from the mice. After trying various modes, the following has proved best—set the trees in an upright or perpendicular position, either on the surface of the ground or in a slight hollow, and then bank up round the stems on all sides. The mice will never climb the sides of a steep mound of fresh earth, and the trees will be safe. Where trees are annually to be thus preserved, a bed of *peat* drawn on purpose will enable the workman, from its lightness, to cover the roots in a fourth part of the time required with common soil.

Western Horticultural Review.

No American city is advancing more rapidly towards maturity in horticultural knowledge and enterprise, than the metropolis of the Ohio Valley. An index to this progress is furnished by Dr. Warder's excellent Horticultural Review, published at that place. Judging from the second number, the only one seen, it must stand in the first rank of periodicals of its kind. The present number is largely occupied with a well prepared and minute account of the late rich and varied exhibition of the Cincinnati Horticultural Society, and it also contains several valuable original articles from the editor and correspondents. Although particularly adapted to the region of the west, it cannot fail to prove interesting to amateurs in all parts of the country. Its mechanical execution is in keeping with its general character, exhibiting much neatness and taste.

A few pomological notes, derived from its pages, may prove interesting:

Diana Grape.—It appears that the Diana Grape, classed by many eastern cultivators as the best American variety, is not regarded with great favor by Cincinnati pomologists. In common with "forty others," the editor renders his condemnation of this sort, when compared with the rich and melting Catawba, as it becomes when ripened under the hotter suns of southern Ohio, and thus far exceeding in quality the same Catawba as usually ripened in the eastern and more northern States. He therefore recommends his friends not to purchase too largely—or to purchase the Catawba, already so well proved in that region, "of which they can procure one thousand roots, instead of one, for their five dollar bill"—one year Catawbas having been actually sold so low in some instances, where it is cultivated so largely.

Kentucky Apples.—Among those highly commended, are the Bohanon, a delicious, yellow, autumn apple, ripening at the close of summer in Kentucky; the Fall Queen, known also as the Horse Apple, a mid-autumn fruit; and Pryor's Red and Rawle's Janet—"neither of the two latter," it is observed, "appear to be known in the eastern States." Pryor's Red has repeatedly fruited in Western New York, where it proves to be a fine apple, but much smaller in size and less reddened than the Kentucky specimens, and considerably resembles in quality and flavor the Westfield Seeknofurther.

Saving the Peach Crop.—It often happens that throughout the Ohio valley, the peach crop is destroyed by the frosts of spring, after the warm weather has rendered it liable to the disaster by an early growth. A correspondent mentions the case of several young peach trees which were incidentally severely root pruned, by digging a grape border within two feet of the trees, the buds of which did not burst until a week after those in orchards. He therefore proposes root pruning as a security against this destruction. Further north and east, where the peach crop when it fails is nearly always destroyed by the intense frost of winter, this remedy will perhaps be of less importance.

The Chaumontel Pear.—The editor of the Genesee Farmer, who has given this pear considerable trial, and who considers it equal to any early winter variety, states that it will not succeed in the latitude of Rochester, except on dry, warm, and rich soils. With neglected culture, the fruit is not worth gathering. The tree bears quite young, and ripens with as little care as fall pippins.

◆

Insect on the Verbena.

Extract from a letter of David Thomas, dated 12 mo. 9, 1850:—"Last winter we had a few Verbenas of great beauty, in pots; but all perished except two. These in the spring were planted out in a bed of sand and peat, where they had grown the preceding summer most luxuriantly, but after a few weeks both perished. In the mean time I had added to the same bed four splendid ones which Luther Tucker had kindly sent me. In a few weeks, three of these also declined, and I felt quite discouraged. On taking them up, however, to *try* them in another border, I found the main stems covered with a pale green aphis! This discovery explained at once the bad condition of the plants; and having destroyed all that I could find, the Verbenas came beautifully into bloom towards the close of the season. The plant that remained in the bed was not infested.

"After these plants were potted, we found a few of the aphis on each; and now they will be regularly inspected. I presume there is nothing new in all this to such persons as have the care of green-houses; but to new beginners with house plants, the statement may possibly be of some value."

◆

Planting on Green-Sward in Hot-Beds.

Suggestions for the more especial benefit of Market Gardeners.—In the forwarding of such plants in hot-beds, as need to be subsequently transplanted, there is much advantage in the use of green-swards. They not only afford a very natural nutriment to all plants, but they allow of subsequent removal with more facility and safety than by any other mode. They also admit of a longer retention in the seed-bed than by any other mode.

I. *Choice and Preparation of Swards.*—Choose a smooth plat in any old pasture or meadow where the soil is good, and its texture sandy, or at least loamy; since a clay sod will bake too much, and a coarse gravel will be too loose. Especial care also should be exercised in avoiding quack grass and such perennial weeds as golden-rod, since it is found that the sprouting of such things in the hot-bed is a source of much trouble. With a sharp spade cut a line about six inches deep on the side of your plat of sward ground, and then another line a foot distant. Cut out the intervening space in squares, and so on till you have the requisite number. An Irishman will cut as fast as two or three can wheel away. Sods may be cut larger or smaller than one foot to suit varying circumstances, but long and extensive use has fixed me at these dimensions as usually the best. Where many are needed, and when they are cut a considerable distance from the beds, they should be loaded upon a cart or wagon, grass-side down. I have been in the habit of using from three hundred to twelve hundred a year for the last eight years.

II. *Mode of planting upon them.*—Having arranged the manure in your beds, and slightly covered it with earth, cover it with small pine boards one foot square, disposed in regular rows. Pine is more durable than hemlock, and the knottiest boards are best as well as cheapest. In a bed thirteen feet by five and one half, I usually put five rows of twelve each. Lay a sod upon each board. Now place a small stick very accurately in the centre of each sod and then fill all the intervals with good garden earth, and make it all level. Then withdraw your sticks, one by one, making a hole in the center of each sod for your seed. Now sow and cover, and your bed is done. I have sometimes sowed my seeds thickly in loose earth in a hot-bed, and then subsequently set my plants, when small, upon my sods; but I do not like it so well.

III.—*Period of Planting, &c.*—This will depend on your after treatment. If you transfer your plants to the open ground, using perhaps only some little protection against severe winds, you may here (at Utica) plant tomatoes about the first of April, melons of all kinds the 15th, and cucumbers and summer squashes the twentieth. Your tomatoes may stand six weeks, i. e., to the middle of May; or, if set a little wider apart, until the first of June. Melons may safely remain six weeks, but cucumbers and summer squashes should never be left in the beds more than four weeks.

If, however, you are willing to make small protected fruiting beds, you may venture to start all the above two or three weeks earlier than is there indicated. Such beds, however, will hardly pay a market man, especially if each of them should require hot manure at the bottom. This, however, for the amateur gardener, is a very certain and beautiful mode of securing early fruits of all the kinds noticed above.

After the beds are up and once weeded, they will require a little earth to be thrown from without, to earth up the plants. Thin early and do not force too fast, as this will make your plants succulent and tender, and cause them to grow beyond their proscribed bounds. The success of future removal will depend exceedingly on their being stout, short-jointed plants, such as have had plenty of air, sun, and, of course, room, and have grown with only tolerable rapidity.

IV. *Transfer to the open ground.*—To effect this cheaply and rapidly, where you have many plants, five hands are necessary. Having prepared your places, station one hand at the bed, three at the wheel-barrows, if the distance is considerable, and one at the new plat where they are to be set. Let the man in the bed cut carefully, with a broad carving knife between the hills, and lift them out one by one, board and all. Then wheel, or, if the distance is short, carry them by hand, carefully to their new positions. Let the planter, having made his hill perfectly flat at the bottom and watered it, gently set in his plant, and carefully raising one side, withdraw the board, and draw up the earth. A warm damp day is best for transplanting; on such a day the plants if carefully removed, will scarcely wilt at all. It will be necessary, in most respects, to set boards up on the west, or northwest side of your rows, and also to have canvass covers, one yard square, to lay over each hill. Thus they will be protected from the cold winds that may be always expected to blow from the 20th of May to the 10th of June, as well as protected from an occasional heavy rain, which always hurts new set plants, and also guard them from the dew on cold nights which is also very harmful. These boards and covers are not indispensible, but they will, in a course of years, much more than cover their expense. I have often removed tomato plants with fruit as large as half dollars in entire safety. But you can not thus remove melons and cucumbers.

V. *Period of Maturity.*—If the foregoing operations have been conducted with tolerable care and success, you will be able to cut cucumbers in eight or nine weeks from the seed, melons, of all sorts, in from sixteen to eighteen, and tomatoes in fifteen or sixteen weeks.

Cautions.—Do not ordinarily plant any thing between your hills, as lettuce, radish and cabbages. They will be sure to make your bed too thick and close before they are large enough to draw. They may sometimes be safely sown on the front side of the bed. A large bed of plants sown on the foregoing plan seems to exhibit, for the first week or two, a great waste of ground, but long and varied experience has convinced me that they should, from the beginning, have *all* the ground. It may be well however to plant a few seeds, of the sort that constitutes your bed, between, to serve as a dependance to supply such hills as are destroyed by corn worms, &c. during the first two weeks.

Profitableness of this plan.—A market gardener may usually make vegetables, cultivated on the foregoing plan, fairly profitable, even here (at Utica;) although the increasing facility with which all these productions are brought from New Jersey and Long Island, where they are cultivated by much cheaper modes, will in an indifferent or bad season, render them otherwise.

Gardeners in the vicinity of cities, farther removed from the great thoroughfares would find it more profitable. No man however should enter upon this plan on a large scale the first year, since there are too many delicate operations, a failure in any one of which would ruin his whole prospect.

This plan on a small scale should be prosecuted in every considerable private garden. Thus cucumbers may always be cut quite cheaply by the 25th of June, tomatoes by the 20th of July, and melons in variety by the 1st of August. C. E. G. *Utica, Jan.* 22, 1851.

◆

Good and Bad Transplanting.

Linus Cone gives the following statement in the Michigan Farmer, for the purpose of showing the difference between abusing a young tree and treating it as its value and nature requires:

" Some twenty years since, I purchased and set out about fifty apple trees. They were large thrifty trees, of five or six years' growth, taken up with great care and set out in the ordinary way—that is, by digging a small hole, and if the roots were too long, by twisting them round or cutting them off with a shovel, throwing the earth back and treading it down. About one-quarter of the trees died; the balance gave me about a bushel of fruit the fifth year after setting.

Again, two years ago, I set about the same number, of three years' growth; none died, some bore last year, and this year nearly all; after thinning out to prevent the trees breaking, and what was blown off by the winds, I gathered about two bushels of fine apples. Here, then was the difference in setting—one bushel from fifty trees of eleven years' growth, and two bushels from fifty trees of five years' growth."

Great as were these advantages of careful transplanting, still greater would be found the difference, by similarly contrasted experiments, between careful, clean and mellow cultivation, and neglect, weeds and grass, for the first five years after transplanting.

◆

The two kinds of Landscape Gardening.

We have never seen comprised within the space of a dozen full pages, a better contrast of the natural and artificial styles, than in these few words of Tuckerman: " At Rome, the clipt, dense evergreens, weather-stained marbles, and humid alleys of the Villa Borghese, do not win the imagination like the vast, uncultivated campagna. A fine English park, with smooth roads intersecting natural forests, is more truly beautiful than a parterre surrounded by fantastic patterns of box, or studded with bowers and temples, like the back scene of a play."

◆

Borrowing and Credit.—A large portion of the articles which appear in the Horticultural department of the Cultivator, are extensively copied, often without any credit being given, and not unfrequently the credit is accorded to other papers; and some have even gone so far as very coolly to appropriate certain portions under their editorial heads, fully leaded, as original. This, however, is of little consequence to us ; but we must be allowed to object to receiving credit, as is sometimes the case, which we do not deserve. For example, a late number of Moore's Rural New Yorker contains a copied article, ascribed to the Cultivator, giving as *new and valuable*, the old, twenty-times-exploded humbug, of raising fruit trees of different sorts from cuttings, by dipping the lower end in wax or tallow !

◆

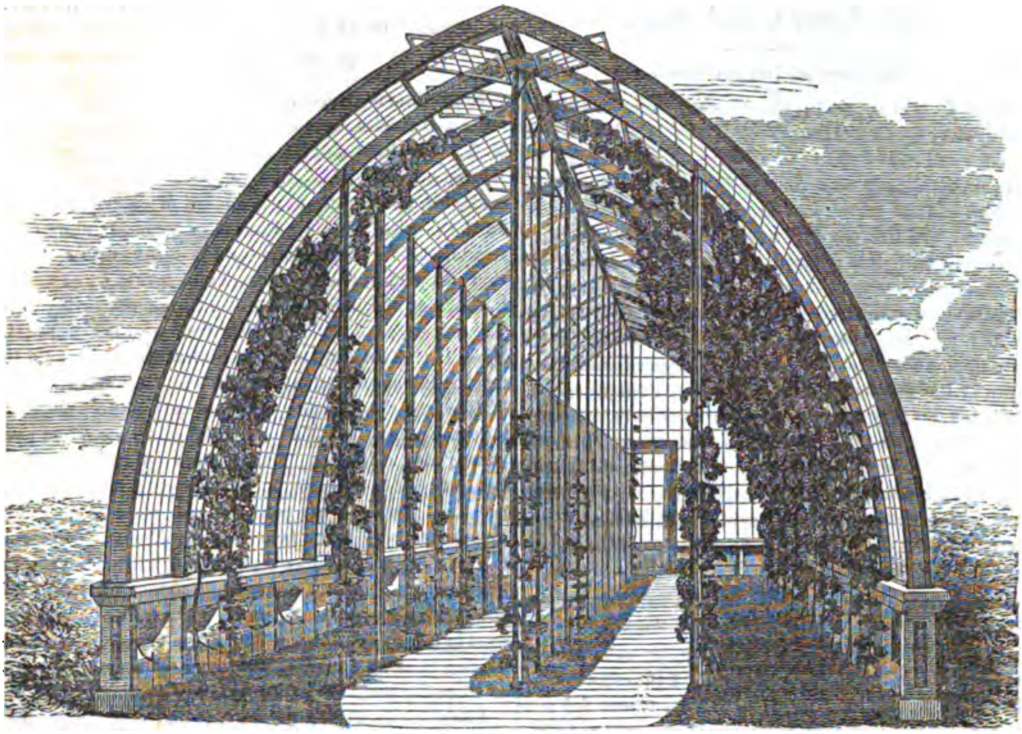
The Spanish Chestnut—error corrected.—In the Jan. number of this paper, " botanists" are represented by a mistake of the printer, as being " surprised and amused at the result" of impregnating a sterile tree from a foreign source. Now as botanists are the last class of men to feel any surprise of the kind, the reader will understand that the important word " *not*" was omitted before the word " *surprised*."

◆

Best Sorts of the Pea.—R. G. Pardee, of Palmyra, N. Y., an enterprising and skilful amateur cultivator, gives the following as the best out of ten selected kinds of the pea, obtained from Thorburn of New-York. The *Early Emperor* he regards as the best very early pea, and *Hair's New Mammoth Dwarf Marrow*, as the largest, most productive, and richest pea of all.

◆

Protecting Half-hardy Shrubs.—The following method is recommended by the Horticulturist:—Raise a small hillock of tan or charcoal or sand, round the trunk of the shrub, and turn a barrel over it. In order to admit a little light and air, raise the north side of the barrel a couple of inches, and put a stone under it. It is not the cold, but the sunshine after the cold, which destroys half-hardy plants.



A Cold Vinery.

The accompanying engraving represents the vinery of Philip S. Van Rensselaer, Esq., at Clinton Point, near New Hamburgh, N. Y. We are informed by Mr. Downing, by whom the account of this vinery was first given in the *Horticulturist*, that it is one of the best models for structures of this kind, that he has ever seen. It is described as follows:—

"The engraving shows, a span-roofed house, 80 feet long, 18 feet wide, and 14 feet high. Mr. Van Rensselaer has deviated from the usual course, in placing it on a north-and-south, instead of an east-and-west line; and the result shows how wisely, for this climate, as the vines on both sides are equally exposed to the longest influence of the sun,—enjoying it from rising to setting; while at the hottest time of day they are all far less likely to be injured by any excess of heat than vines on the sunny side of a house facing directly south."

"The house is built entirely of wood; and while it has an exceedingly light and pleasing effect, is at the same time very strong and durable. The view of the interior, given in the above engraving, (in which we have omitted a large portion of the vines, to exhibit the construction,) shows that the roof is supported by three rows of light posts, to which, in a very simple manner the effect of clustered columns is given.

"The house rests on *locust* posts, which are as durable as a stone wall, while they offer no impediment to the free passage of the roots of the vines through the border on the outside or inside of the house.

"In the ventilation of this vinery, Mr. Van Rensselaer has especially improved on other structures of the same kind, which we have seen elsewhere. The current of air follows the same course as usual in houses of this kind; that is, it enters at the openings in the low wooden wall below the sashes, (boards hung on hinges,) and escapes at the moveable sashes at the top of the roof; a mode which passes a stream of fresh air, entering at one's command, over the whole growth of the vines, from the floor to the topmost branch.

"This is a 'cold vinery;" that is, one in which no fire heat is employed,—a species of structure every day coming into greater favor in this part of the country To grow the foreign grape in the highest perfection, it is only necessary to have the temperature of the house at that command which the full sunshine, and the admission or exclusion of the outer air, gives, without resorting to fire heat; and so abundant and powerful is the sunshine in this latitude that the Muscat of Alexandria which in many seasons requires fire heat to mature perfectly in Boston, ripens regularly and fully on the Hudson in a cold-house.

"The house contains a very complete collection of grapes, obtained from Mr. Buist, of Philadelphia, and we were glad to learn that every vine had proved correct. Besides the standard varieties, we noticed *Deacon's Superb*—perhaps the most beautiful of all new white grapes,—the clusters very large, berries oval, and closely set. *Reine de Nice*, (not ripe when we saw it,) was also laden with large clusters of very handsome fruit. *Xeres*, another white grape, also attracted our attention by the size and beauty of its clusters; while some bunches of the *Palestine* grape, more than two feet long, made us comprehend the biblical account of the grapes of the land of Canaan."

◆

Planting out Elms.

A Philadelphia correspondent of the Horticulturist, states, that in setting out a hundred elms from the forest, about 18 feet high, and as large as a man's arm, he fully tested the advantage of *heading back*. The tops were so handsome that he was reluctant to touch them, he accordingly left a part entire, and shortened back the remainder about one-third, to correspond with the necessary shortening of the roots outside of the large balls.

Few trees were lost; most of those with entire heads made little or no growth the first year, and many limbs died and had to be cut out. Of those cut back, all lived; and their leaves the first summer were three times as large as on the unpruned trees. They have outstripped the others so much, as to have entirely regained the symmetry and beauty of their heads.

The Farmer's Note-Book.

Varieties of Indian Corn.

Eds. Cultivator—In the January number of the Cultivator, I find some account of the relative weight of corn and cob of different varieties of corn, by E. M. Bradley. I have no doubt the difference in the weight of corn and cob of the several kinds, is as great as there reported, and if there were no other pecuniary questions connected with this subject, it would be a matter of great importance to farmers, to always raise the small Canada or Vermont corn. But I can raise from thirty to fifty per cent more bushels of large twelve rowed corn upon an acre of good and well prepared land, than I can of the smaller eight rowed kinds. Four years ago, I planted as many as eight varieties of corn in the same field. The seed of several kinds was from Vermont and the north part of this State. The land, cultivation, &c., was all alike; the large twelve rowed, a variety that I had cultivated for several years, yielded from thirty to more than fifty per cent more of corn and fodder than the eight rowed kinds.

Some of the smaller varieties were fit to harvest three weeks earlier than the twelve rowed. Some, perhaps, may ask if the large kind did not sap, or exhaust the land more than the smaller varieties? I presume it did; but all the fodder, and most of the corn was fed out upon the farm, and supplied manure for other fields. The "large cobs" were ground at a mill and used as litter in my hovels to absorb the liquid part of the manure. The larger kinds of corn are generally later in ripening than the smaller varieties, but I have no knowledge of there having been more than two seasons (1816 and 1836) in the past half century, in which the corn crop has proved a total or nearly a total failure, and then all varieties fared about alike.

You remark, that "there is another disadvantage connected with large cobs which should be noticed. They are longer in drying, and consequently the grain is much more likely to mould and spoil, either in the crib, or while in the shock." That may all be correct; but I put my corn at harvest in a latticed corn-house, in which I have a cast iron box stove, in which I keep a fire in rainy or damp weather, and the heated air passing through the corn and out at every crevice, soon carries off the moisture of the corn—a kind of kiln-drying process. By this course my large cobs become as dry and bright as the smaller ones. I can husk ten bushels of my large kind, as quick as I can five of the smaller varieties. It is real fun, to sit down in a pleasant evening in October with half a dozen brother farmers, and husk out an 100 bushels of ears of large corn, and get through by a little after ten o'clock. At such huskings, we don't need the stimulant of alcohol in any form. It is said the small Canada and northern corn contain more oil than the large varieties, and consequently posses greater fattening qualities, than the larger kinds. If so, for working cattle and horses, who require muscle-forming food, the large kind would be preferable, and the smaller kind would be best for fattening hogs. But still, I think there is more than 8½ per cent in favor of the large kind, and shall continue to plant it, if there is some more weight of cob in a bushel of ears. Levi Bartlett. *Warner, N. H., Jan.* 10, 1851.

Profits of Dairying.

Eds. Cultivator—Thirty years ago, there were a few small dairies, cheese dairies, in Washington county, N. Y. At that time, 200 pounds for each cow, was considered a good yield. In 1830, some made 300 lbs. to each cow. About that time a spirit of enterprise seemed to show itself in that branch of business; more care was taken in selecting cows for the dairy, better attention was paid to feeding them, more regularity observed in milking, and more pains taken in manufacturing butter and cheese. In 1840, 400 lbs. was not unusual. Since that time, still more attention has been paid to feeding the cows, and at the present time from 500 to 600 lbs. per cow is made, and in some instances more.

My own dairy for 1850, consisted of 30 cows and two three-year-old heifers. I have kept on the farm two two-year-old heifers, for family use—two families of 12 persons. Three of my cows did not come in until 6th month, neither did the heifers for family use. Previous to that time, the families used milk from the dairy. In 9th month, a friend of mine, while arranging his lot of cows, left six with me one week. The milk of them was used in my dairy, which will make up for one of my cows coming in so late, leaving the dairy 32 in number—one of them farrow, two heifers, and two coming in late.

I have made 21,264 lbs. cheese, and 480 lbs. butter. The cheese has been sent to New-York and sold by Ludlum and Leggett, Front st. Most of it brought $7 per hundred; two small lots sold a little less; the whole averaged, after deducting the expense of boxes, transportation and commission, 6¼ dollars per hundred—
making nett proceeds on 21,264 lbs.,...... $1,329 00
Butter, 480 lbs., 15 cts.,.................... $72 00
Whole amount,.................... $1,401 00

Being an average to each cow of 664½ lbs. cheese and 15 lbs. butter, or $43.78

I have been particular in giving the above statement, for the encouragement of those who are still on the background of improvements. Yet there are a number of dairymen in this vicinity who are making about the same amount of cheese, and are sending it to the same market. I see no reason why the increase may not continue for many years to come. Otis Dillingham. *Granville, N. Y., 1st mo. 15th*, 1851.

Destruction of Wire-Worms.

Eds. Cultivator—I notice that a writer in a late English paper recommends the use of *rape-cake* in preventing the ravages of the wire-worm. The mode described, was to spread and harrow in about five hundred pounds per acre of the cake broken into about half-inch pieces. The result was stated to be, that "the wire-worms will congregate on these lumps of cake, devouring them with such avidity as to become glutted, and perish either from repletion, or from the peculiar properties of the rape, or from the combined effects of the two."

The *Working Farmer* says in reference to this recommendation, "Those who cannot procure rape-cake, can get rid of wire-worms by sowing broad-cast six bushels of refuse salt per acre."

Now in regard to the utility of the article first mentioned, for the destruction of worms, I know nothing; but in reference to salt, I have made some trials which show that the quantity of "six bushels" per acre will produce no such results as above stated. I have, in one instance, put wire-worms in a vessel with earth, and strowed salt at the rate of *forty bushels* to the acre. The worms were examined at various times for several weeks, but showed no appearance of having received any injury, or of being in the least incommoded by the salt. Several other worms were in the vessel with the wire-worms, but the salt appeared to have no effect on any of them. J. T. P.

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Milk-houses and Butter-making.

EDS. CULTIVATOR—I notice your request for information in regard to spring-houses for milk. Almost every farmer in this section of country has a spring-house, as it is almost impossible to make good butter in the summer without one. And as I have as good a one as I have seen, I will try to describe it. My spring rose in a low cave, on the east side of a hill, close to the creek. This cave, the former owner used for a spring-house, but as it was inconvenient, I quarried and blasted out the rock about twenty feet into the hill, and about fourteen feet wide, down to the level of the spring. On the west side or next to the hill, I found a perpendicular seam in the rock, that answered for the wall, nine feet in height. I built the house 12 feet by 11 in the clear, and two stories high; the lower or milk-room is 7½ feet to the joists. The upper story is about six feet high. I put the door in the east end, and a small window of six lights 8 by 10 at the side of the door. I thought the second story would add much to the coolness of the lower room, but a good ceiling might answer the purpose as well, but I had plenty of stone at hand, and I knew the upper story would be useful, and the roof would cost no more. The rock or bank covers the lower story on three sides. The spring comes in at the west end, and escapes through a crevice in the rock under the floor to the creek. We find it cool enough in the warmest weather for every purpose. Fresh meat will keep a week in it, but as it was too cool to stand to churn in it, I put a shed over the door for that purpose. But my wife said it was too warm under the shed to make good butter, and she made it inside the house, although it was a bad place for persons afflicted with the rheumatism. I then cleared off the shed and built a churning-room 6½ feet long, (which was all the room I had to the creek,) and eleven feet wide, two stories high, and to make it more comfortable I floored it with plank on the rock. There is two doors in this room, one on the north, the other on the south side, and a window with 12 lights in the east end. I thought we were fixed, but building the churning-room against the end of the milk room in which the only window was, made it too dark. I then cut a hole 2½ feet long and a foot wide in the upper floor under the window, this threw down enough of light and served as a ventilator. I boxed this hole round three feet high to prevent the dust blowing down. I find it very convenient now.

We might make a great deal of butter, but we have have never sold more than 953 lbs. in any one season. We churn all the milk, except part of the first or fore milk, in which there is little butter; this we skim and use sweet. The butter is taken off as soon as churned, and the milk well washed out of it by the hand; it is then salted with Kanawha salt pounded fine in a cloth with a hammer or a log. This has been the usual practice; but last spring we got a barrel of very fine salt from New York, which saves the trouble of pounding the Kanawha. As soon as the milk is churned, the person who makes the butter, scalds her hands to prevent the butter from sticking to them. The butter is then raised by the hand into a wooden bowl, where the milk is worked out of it, and the salt worked in. It is then covered with cold spring water and left in the spring-house till next day. It is then washed with cold water, and beaten and worked till neither milk or water remains in it. It is then ready for weighing into pounds, or for packing. That which is immediately sent to market is put in pound lumps, each wrapped in a clean white cloth. These cloths are returned, well washed and laid out to bleach till they are required again. We have had our butter engaged for some years at 15 cents per pound, and take it to Madison once a week. We are now offered 18¾ cents a pound, for all we can make, for a year. Two families get their weekly allowance put up in small earthern vessels. We leave the full one and bring home the empty one weekly. When we have butter standing in a bason or crock, we put some strong pickle on it. Our butter is very much liked by all those who have tried it.

We keep the milk vessels on the rock floor, and not in the water as most others do. We use a large Kendall churn that holds twenty gallons; it is pretty hard work turning it. Would a fly or balance wheel improve it? [No.] The spring-house is plastered, and well white-washed, and the yard around is planted with Cedar, Cottonwood, Aspens, Catalpa, Red Bud, Service-berry, Dogwood, Black-locust, Rock-Maple, &c. &c. I have a Black-locust grafted about ten feet high with the *Robinia hispida* or Rose acacia, which I think looks very pretty when in flower.

In the winter when we have little milk, and the weather is very cold, we bring the milk to the house. We have a perfectly dry cellar, with the floor partly solid, level rock, and this place answers very well in winter.

One of my neighbors who has an excellent spring about 200 feet from his house, but 30 feet below it, has had an Hydraulic ram put up, and intends to erect a milk-house on the north side of his dwelling-house, and to have a shallow trough to run the water into and to set his milk vessels in. This will save labor. Another who has no spring convenient, has a milk-house built close by his well, and has a channel built with brick, and plastered with cement, to run along three sides of the house, close to the wall. The channel is about 1½ feet wide and six inches deep. This he pumps full of water two or three times a day or as often as it gets too warm, and he keeps the milk vessels setting in the water. He says it does pretty well. Another whose spring rises within about ten feet of the surface of the ground, sunk a cellar aroud the spring, roofed it over, made stairs down to it, and keeps the milk setting in the water. It is pretty cool, but inconvenient. I find all, except ourselves, keep the milk vessels setting in the water. A man from near Philadelphia, Pa., has the best situation for his spring-house that I have seen. It is on the north side of a steep bank of rock, about 30 feet high. He keeps his milk vessels in the water.

If I was building a spring-house in this climate, on level ground, I would put the door and windows on the north side, and bank up the other three sides as high as the lower story. This I think, with planting trees round it, would keep it cool enough. JOHN J. CRAIG. *Madison, Indiana, Dec.* 31, 1850.

Inquiry---Wens.

EDS. CULTIVATOR—I have a cow, on whose under jaw is a large excrescence; and is said to be a *wen*. I have searched my agricultural books in vain, for a description of the wen, hoping to find a cure; and if you, or any correspondent can tell us a remedy for such a tumor, they will confer a favor, and, perhaps, save my cow.

In March, 1850, this cow was hooked rather unceremoniously, by another cow, when in her stall; and in her attempt to escape through the manger, I conclude, she injured her jaw; for I discovered immediately after this fracas, a little hard lump, about the size of a hen's egg, which increased in size until June, when it broke, and smelled very offensive. Medical counsellors prescribed an escharotic of caustic potash. This was applied during the summer, sometimes twice a day, with little or no benefit.

During September and October I paid but little attention to it; but would occasionally apply some. Now, I apply potash once in 3 or 4 days. The cow is much emaciated; and it is difficult for her to eat anything but roots and cut feed. When she ruminates, she froths at the mouth; and a stream of slabber is constantly flowing. Its size, now, is like the half of a man's head. It inspires a great repugnance; and nothing but an application of potash will cleanse it.

Who is able to prescribe a cure? S. EDWARDS TODD. *Lake Ridge, Tompkins county, N. Y.*

Legislation in Relation to Agriculture.

We have received a communication of considerable length in relation to several subjects which were alluded to by Mr. MERRIAM, in his articles published in our last volume, pp. 29, 391. Want of space obliges us to give the following extracts only, instead of the entire communication. In relation to flax-seed and linseed having been placed in the tariff of 1846 as distinct articles, the following explanation is given:

" Legislators may be too ignorant of what is most conducive to the best interests of the farmers, but the fact that flax-seed and linseed were treated as two distinct articles by the Congress of 1846, was more the result of accident than ignorance on their part. The first appearance of flax-seed and linseed as two distinct articles, was in the tariff of 1833. It was placed there in that condition by one of the most distinguished statesmen of our country, and one whose devotion to agriculture has obtained for him the title of 'The Farmer of Ashland.' It was introduced into a Congress of which Mr. NATHAN APPLETON was a member. The bill received his special attention in two or three able speeches. It finally passed that Congress, with flax-seed and linseed expressed as two distinct articles. In that condition, by accident, they were copied into the tariff act of 1846. The bill was reported to the House in April. It was amended in July, by raising the duty on flax-seed from ten to twenty per cent., and on wool at the same time from twenty-five to thirty, and in that condition passed the House. The bill was amended in the Senate and returned to the House for concurrence. The fact was then discovered that flax-seed and linseed were not only in the bill as two distinct articles, but owing to the amendment of July, were at different rates of duty. It was too late however, too make an amendment, as a return to the Senate would have been fatal to the whole bill. It was therefore allowed to pass in that shape, and a letter was addressed to the Secretary of the Treasury, inquiring at which rate under the circumstances the duty would be collected. The Secretary's letter, in answer, (which can now be found in the possession of the gentleman then representing the 27th congressional district in this State,) asserted that the duty would be collected at twenty per cent.

" When farmers shall have to rely less upon practice to the entire exclusion of theory, they will learn to appreciate such artificial helps as may be brought to bear upon agriculture by both science and legislation. They will then learn to avail themselves of existing agricultural associations, and if necessary to frame new ones, in order to investigate and ascertain what artificial helps may be made most conducive to their general good. Their wishes, expressed through such associations, will have the force of commands in obtaining, at the hands of legislators, all they can reasonably require. The association in Rhode Island, of which your Tewksbury correspondent speaks, and similar associations in every State in the Union, would be powerless if exerted against the wishes of the associated agriculturists of the country. Let the farmers be but true to themselves, and we shall hear no more that their interests are neglected in our halls of legislation."

The Philosophy of It.

By seeing an apple fall, Isaac Newton was led into a train of thought which resulted in the discovery of the laws of gravitation. This may be called an accidental discovery, but thousands had seen the same before and thought no more about it. But it required a right kind of mind to be directed to it, to pursue the investigation and learn the philosophy of it. It was *such* an accident that led to the discovery of the properties of steam. Many had seen the power of steam in lifting the lid of a tea-kettle, but there were only a few that had philosophy enough about them to comprehend the nature of such an agent for motive power, and to pursue investigations in order to test its value. The history of discovery in the sciences and arts, gives many illustrations of the manner in which persons have arrived at important results in studying the philosophy of their pursuits.

A gentleman of my acquaintaince, who has the oversight of a large workshop, is a great philosopher—in his way. He is for searching out all the whys and wherefores of his business, and in directing his workmen he not only tells them *how* to do their work, but *why* it is done so. He explains the philosophy of it, so that it is much easier understood, such an inquiring mind is very advantageous, and the gentleman aforesaid has found it so; not only financially, but he has been "heard from" in the reports of the Patent Office.

If water can be decomposed so as to furnish a "burning fluid," it will be a *brilliant* discovery. The success of the matter is not yet fully established; to insure it, will no doubt require patience and *pains*. The scientific and the unlearned may cry out "humbug;" so they did when Fulton launched his first steamboat on the Hudson. But when the success of this *water light* is established, it will be a more brilliant discovery than that of the properties of steam, and equally as beneficial for the million.

Perhaps many farmers may think that they have nothing to do with philosophy, and that there is no necessity of studying it. Such persons are very much mistaken. It is true they have not the time to devote to books that the professional man has, but our great men were not made by books alone, but by studying nature, men and things. And no one has better opportunities to study nature than the farmer. He may if he will, find

> "Sermons in stones, tongues in trees,
> Books in the running brooks,
> And good in everything."

Not only chemical changes, but philosophical changes are constantly taking place in the farmer's presence. Those familiar occurrences, the rising of fog and the falling of dew, or rather the condensing of vapor that forms dew, are explained upon philosophical principles, and are among the many things that the farmer *sees* but does not *know*.

In every day life may be seen instances of —— philosophy if you please. If you want to see a model farmer and farm, just go with me to neighbor P.'s. Weeds do not grow in his garden or cornfields, or bushes by the side of the fences that enclose his cultivated land. Everything speaks of good management, industry and thrift. Perhaps his "bump" of order may be fully developed, but that is not all the philosophy of it. He is a man of information, "takes the papers" of course, and brings the result of his observation, intelligence and reading into active service; hence that state of things about his premises that is so pleasant to behold.

Shall we pass on to neighbor O.'s. In passing his premises you might suppose you were going "by the field of the slothful." Nothing in place; work done in a hurry, and consequently half done; the cultivated crops choked by weeds, *and so forth*, to the end of the chapter. He don't take the papers, not he, and as for "book farming" he don't believe in it. His father raised good corn, and had fat hogs, and books did him no good, and he can do as well as his father did. He could not afford to take an agricultural paper, if he wanted to, and he could not get time to read it if he did, and as for "slicking up round," and being so "awful nice," it did not amount to anything. Mistaken man, "there are more things in heaven and earth than are dreamed of in *his* philosophy." W. L. Eaton.

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Talking.—The best rules to form a young man are, to talk little, to hear much, to reflect alone upon what has passed in company, to distrust one's own opinions and value others that deserve it.

Digging Wells.

BY DAVID THOMAS.

The great denuding process left the rocks of the Hamilton group in this neighborhood with very irregular surfaces,—such as narrow vales, or basins of many acres in extent, and sometimes to the depth of more than 50 feet; but it is no less remarkable that none of these rocks project above the *northern drift* which has given us so smooth a country, although in some places they appear very near the surface. As we recede from the Cayuga Lake however, the covering of drift deepens, and these remarks chiefly apply within the first three miles.

But so smooth a surface is unfavorable to the issuing forth of springs or fountains, and comparatively few are found in this district. To dig wells has therefore been the general resort. When convenience has directed the excavation into this state—which is very compact—the chance for obtaining durable water is small; and of four wells which were dug on my farm, scarcely one has been more than a reservior in drouth, the whole contents at such times having been emptied to the bottom. Afterwards indeed, we sunk a well (50 feet) where the drift was deep enough without reaching the rock, and there we have never had occasion to measure the supply.

In 1826 we dug a well at the kitchen door 20 feet deep. The first 8 feet were through the drift, when we came to polished state, slightly inclined, over which a little pure water was soaking or moving westward. On this was all our hopes for a supply except in wet weather, when it would be greatly increased; and the remaining 12 feet which we cut into the rock, was only intended as a reservior. The value of this effort however, was greatly diminished by *filling up three quarters of the excavation with the wall,** so that every dry season we were scant of water.

In 1844 we dug another well, about three rods from the former on the opposite side of the house; and having become sensible of our error in starting the wall from the bottom, we began it *on the top of the rock*, which occurred 10 feet below the surface. To do this conveniently however, required some preparation. Having dug putlog holes at proper distances round the circumference, close above the rock, we excavated it downwards 9½ feet when water came in through a small cleft, yielding scarcely two pailfuls in 24 hours. We could go no deeper without blasting, which was not deemed expedient. We then placed the putlogs, and *laid a tight floor* to receive the earth which should be cut from the sides in preparing the foundation for the wall. On the rock, the excavation was 18 inches wide, forming a circular shelf, but it contracted upwards to the height of 6 feet, like the lower part of a cone. Above this point, the well was not widened, so that the wall would leave the opening or mouth only 3 feet in diameter, though it would be 6 feet across at its foundation.

Having provided shapely stone, and considering that this wall would be a horizontal arch, bracing itself at every point,—I was surprised when the well-digger refused to build it. "No—he had walled wells, and knew how, but this leaning wall would certainly *cave in*, and he would not undertake it." No reasoning could overcome his apprehensions, and the work was at a stand, when an old carpenter who happened to be present, offered his services—he was not afraid, and the well-digger served as tender.

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* Cylinders having the same altitude are to each other as their bases; and their bases are to each other as the squares of their diameters. Hence the open part of the well (or 3 feet squared,) is to the whole excavation, (or 6 feet squared) as 9 is to 36—or as 1 is to 4.

Now as this wall appears to stand as firmly as any other in this region; and as the well has always furnished abundance of the best water,—I have thought it might be useful to make a record of the facts, as I know of no other attempt on this plan.

And I am now satisfied that if our former well had been walled up in the same manner, we should always have had plenty of water. Let us examine the grounds of this opinion. Suppose at the commencement of a drouth there is 10 feet of water, which we may call in round numbers equal to 280 cubic feet, or 560 pailfuls. Then if 5 pailfuls a day be required, this reservoir would yield them for 115 days; but as the water dripping in from the top of the rock, would be equal to one pailful, there would be a sufficiency for 140 days.

But as no drouth in this land has been known to continue through that length of time, it is nearly certain that by this improvement and at that rate, we should have a reservior not to be exhausted; but on the contrary, it would yield 10 pailfuls a day through any drouth that I ever remember in Cayuga county; and let me add that such water is of the purest and sweetest throughout the entire summer and autumn. *Greatfield, Cayuga county, 1st mo.* 20., 1851.

Cheap and Expeditious mode of Seed-Sowing.

Gardners frequently wish to sow small seeds in too considerable a quantity to be done cheaply by the fingers, and yet not in sufficient quantities to justify the purchase of an expensive seed-sower.

Let such persons pursue the following method:

The ground being well prepared by the plow, harrow, and, if need be, the rake, construct—

I. *A Marker.*—Take a 3 by 4 scantlin, 6 or 8 feet long—bore holes, at three inches distance, with an inch augur; add a pole to one side with a peg through the extreme end for a handle. Now form teeth, made a little wedge shaped at the bottom. Set these 6, 9, 12, 15, or 18 inches distance as you wish your rows, and your marker is done. It is in shape, you will perceive, like a great rake.

Go to one side of your plat, fix your eye on some mark at the other end, advance with a steady step, drawing your marker behind you. A little practice will enable you to do this without varying three inches from a straight line. Turn round and set your inside tooth in the last mark made, and go back. If you are alone, make but a few marks before you begin to sow.

II. *The Seed-Sower.*—If you have no time or disposition to go to a tinner to get a handsome instrument, proceed thus: Take a common tin cannister with a steeple top. Pierce a round smooth hole through the cover, of the size of a small pea, or, what is better, get three or four covers made to it, with holes of different sizes to suit different seeds. Now fasten your cannister with a string to a piece of a barrel stave to serve as a handle.

III. *Preparation of the Seed, and Sowing.*—Have on hand a half barrel of sand, dry and not too fine. Sift a few quarts, and be careful that not a stick, straw, or piece of gravel is left behind, as they would choke your sower.

Mingle your seed with from five to ten times its quantity of sand; fill your sower by means of a tunnel; put on your cover, advance to the first row, insert your sower, and walk off. You will soon learn how to proportion your sand, the size of the hole, and the speed of your walking. The point to be aimed at is to be able to walk with a quick step, and yet have your seed spread just right. The great trouble is to make a beginning. A little experience will make all easy and rapid.

IV. *Covering the Seed.*—A hay rake inverted, or what is better, a bit of wood a little longer and heavier, fastened to an old rake handle will cover rapidly.

But if your soil is in good tilth, and your operations have been managed carefully, you may cover most of the seeds, to be sown by this method, with a roller. Even if you cover by the former method, there are numerous and great advantages in rolling your whole plat before you leave it. Your seed will spring up more evenly, your first weeding will be done more safely and expeditiously, and your seed will come with more certainty especially in dry weather. With such a marker, sower and roller, I think two men would sow at least one and and a half acres of turneps or onions in a day. Indeed, I have done all the sowing of a large market garden in this way for some years, although I think I should find my advantage in using a regular seed-sower, especially as it would be accommodated to a greater variety of seeds than the simple method which I have used. C. E. G. *Utica, Jan. 24th*, 1851.

The Crops of New-England.

I see it stated in some quarters, that New-England can no longer raise grain with profit. If it is meant by this that grain can not be the staple production, we have no objection to the proposition. DANIEL WEBSTER long since, with his usual keen perception, said that grazing must be the occupation of eastern farmers. Still we think there can be no question but that corn and oats can be raised with profit in our vallies, and even on our hills,—not for the home consumption of the whole population, but for the supply of the farmers themselves. There is much sense in the maxim, "Have two strings to your bow." The cultivation of grain will fill up the chinks of time, and the profits of it will fill up the chinks in the pocket. If any one is not satisfied of this, let him neglect his corn-patch for one year, and buy corn to fatten his pork, and meal to make his Johnycake, and he will probably find it more difficult to raise the cash than it would have been to raise the corn. A variety in our productions, conduces to independence and comfort. If one crop fails, we have another to lean upon; and there is a comfort in partaking of one's own products, which the purchased article does not furnish. It is a laudable pride that the farmer feels, as he says to his guest, "this bread was made of my own wheat," or "this fruit is some of my own raising." But I took up my pen particularly to say that the multiplied changes going on around us, demand a corresponding change in the crops. The farmer must have his eyes open, and adapt his products to the changing market. What profits would the merchant make, who persisted in purchasing the same articles year after year, without consulting the wants of his customers? However honest and attentive the tradesman is, these old fashioned goods must lie on the shelf, or be sold without profit. In like manner the producer who persists in cultivating his land in the same manner that his father did before him, and raising only those articles that custom has made him familiar with, must be content to fall in the rear, and see himself outstripped by his neighbor, who has an eye open to the change going on around him. Manufacturing establishments are springing up like mushrooms, in our midst, and the iron horse comes snorting through our farms, laden with the produce of more fertile lands, and it becomes us to note the effect of these things. We must change the step when the tune changes. I know we Yankees are apt to pride ourselves in being shrewd, and ever ready to turn a penny; but there are others shrewd beside ourselves. The world is jogging on, and we must keep up with it. In the article of wool, which has been one of our staples, we cannot hope to compete much longer with the prairie farmer, when facilities for producing and transporting has so much increased.

In dairy products also, it cannot be deenied that our western friends, have the advantage of us. To what then shall we turn our attention? some one may ask with a feeling of despondency. I would by no means discourage the eastern farmer. The list of our products is a long one, and we only need to make a judicious selection, and cultivate with skill, and our profit and loss account will stimulate us to further effort. In the vicinity of manufacturers, garden products will pay much better than the corn and wheat of Ohio. True the market may be limited for these articles, but the adage that "Demand creates supply," is no more true than its converse, supply creates demand. Few families enjoy through the year, the various vegetables, and the reason is they cannot be obtained. Fresh meat also must be furnished to eastern markets mainly by eastern producers. The various fruits too, must be supplied mostly by home production, and the supply of these never equals the demand. I need not particularise more. Each must judge for himself what products his market and soil demand. Our census shows a rapid increase of population, and an increase of wealth in still greater ratio. The times demand increased skill and energy on the part of the tiller of the soil—not merely bodily labor, but mental activity, a mind awake to the capacities and wants of the age. **Berkshire.**

◆

French Sheep-Dogs.—An English traveller speaks of the dogs which are used in Normandy, in the management of sheep, as being uncommonly valuable. He thus describes one: "The animal was some cross of the breed commonly known in England as lurchers; and the quick sparkle of the eye, and the ready and eager intelligence of his face as he watched his master, and flew round and round the flock at the slightest gesture, or merely mumbled word of direction, were really beautiful to see. The shepherd told me he was a most valuable dog—he would not sell him for 200 francs."

ANSWERS TO INQUIRIES.

Protecting Fruit-trees from Sheep, and from the Sun.—*G. M.*, Lowell, Mass. The plan you speak of, nailing three boards, uprightly, round each tree, would be the best protection, both against sheep and the hot sun. It would not be safe to trust sheep in a young orchard without guarding the trees in some way. After the trees have rough bark, sheep will seldom gnaw them. Sometimes they will run in a young orchard for months without barking the trees; but while the trees are small, there is always a liability of the bark being eaten off by sheep, if they are allowed to run in the orchard.

Egg-hatching Machine.—"*Constant Reader*," Springfield, Mass. We cannot tell where such an article as you inquire for can be had. All those which have come under our observation, we are sorry to say, have not answered the expectations which were at first raised in regard to them.

Grass for Meadows.—"*A Correspondent*" inquires of what kinds of grass Mr. Clapp's meadow, mentioned in our January number, page 54, was composed We have understood it was chiefly *Phleum pratense*, timothy, (herds-grass of New-England,) and *Agrostis vulgaris*, red-top. If this is not so, Mr. C. will please inform us. The kinds of clover seed inquired for, (medium or southern and white,) as well as red-top grass seed, can be had at most seed-stores in New-York, Boston, or this city.

Carrots.—*A. J. L.*, Williamsport, Pa. Rather light loams are best for carrots. To produce a large crop, the oil should be rich; that which has been well manured for a crop of Indian corn the previous season, will do well; if more manure is added for the carrots, it should be well mixed with the soil. The ground should be plowed deep and fine, and the surface smoothed and cleared from lumps by the roller and light harrow, before the seed is sown. The crop may be put in early in May. Be sure to have good seed of the previous year's growth. About two pounds per acre will be required. Its cost is usually about a dollar a pound. It may be sown with a drill-barrow in rows sixteen inches apart. For a field crop, the plants may be thinned to spaces of three inches in the row, and they should be kept clear of weeds.

Multicole Rye.—*H. & J. B.*, Springfield, Mass. This grain may be had of Emery & Co., Albany, at $1 per bushel.

Corn-Sheller.—*J. H. C.*, East-Windsor, Ct. Smith's corn-sheller is adapted to horse-power, and is capable of shelling 100 bushels an hour. It may be fed by shovels or baskets. It is for sale by Emery & Co., Albany—price $50.

Marl of New-Jersey.—C. H., Painsville, Ohio. The "blue marl" of which you speak as being found in New-Jersey, is probably what geologists term green-sand. Its value as a fertilizer is chiefly due to potash, of which it contains a large proportion. We are not aware that the blue clay of Northern Ohio contains potash in any proportion that would render it valuable as manure.

Water Lime.—R. H. V. R., Butternuts, N. Y. This article in its natural state, is usually mixed more or less with sand and slate. It contains also magnesia and iron, to which properties its cementing power is supposed to be in a considerable degree due. We have heard of no instances where the lime, used for water cement has been applied as manure; but it may be remarked that its most distinguishing principle, magnesia, is a constituent of all grains—wheat, especially, containing it in a striking proportion. Hence it may reasonably be inferred that it would be useful as a manure on soils which were deficient in the elements of wheat.

Ayrshire Bull.—C. H. A. C., Chesterfield county, Va. We know of but one Ayrshire bull for sale in this vicinity. He will be three years old this spring, and would be sold for $100. He is a good specimen of the breed.

Agricultural Library.—D. S., Old Point Comfort, L. I. In addition to the best agricultural periodicals of this country, we would recommend "The Farmer's Guide," by Henry Stephens, with notes by Prof. Norton, now in course of publication by L. Scott & Co., New-York; Prof. Norton's "Elements of Scientific Agriculture;" "Johnston's Lectures;" "Knight's Farmer's Library," two volumes, embracing "The Ox," "The Sheep," "The Hog," "Poultry" and "Bees," by Martin, and "The Horse," and "The Dog," by Youatt.

Draining-Tiles.—J. C., Princeton, N. J. By reference to Mr. Babcock's advertisement in our February number, you will obtain the information you wish.

Lead Pipes for Water.—J. C. Jr., North Hoosick, N. Y. Soft, or *pure* water, sometimes causes the decay of lead pipes—the oxygen combining with and decomposing the lead. With hard water, or that which contains mineral salts—as lime, iron, &c., an incrustation is generally formed on the lead which preserves it. Lead pipe for water is sometimes imbedded in hydraulic mortar or cement, but from personal observation we cannot say whether it prevents the decay of the pipe.

Books for Premiums.

Several of our Agents have requested us to send them Catalogues of Books from which they can select their Premiums; but as we have no Catalogues, we annex the following list, from which selections may be made:

American Farmer's Encyclopedia, $4.
Gardner's Farmer's Dictionary, $1.50.
Allen's American Farm-Book, $1.
Buel's Farmer's Companion, 75 cents.
Colman's European Agriculture, 2 vols., $5.
Smith's Productive Farming, 50 cents.
Boussingault's Rural Economy, $1.50.
Dana's Muck Manual, 50 cents.
Faulkner's Treatise on Manures, 50 cents.
Johnston's Lectures on Agricultural Chemistry, $1.25, and his Lectures before the N. Y. S. Ag. Society, 75 cents.
Norton's Elements of Scientific Agriculture, 50 cents.
Thompson on the Food of Animals, 75 cents.
Downing's Fruit and Fruit Trees of America, $1.50.
Thomas' American Fruit Culturist, $1.
Cole's American Fruit Book, 50 cents.
Downing's Country Houses, $4—Cottage Residences, $2—Landscape Gardening, $3.50.
Allen's Treatise on the Grape Vine, $1.
Johnson's Dictionary of Gardening, $2.25.
Breck's Book of Flowers, 75 cents.
Kitchen Gardener's Text Book, 50 cents.
Allen's Diseases of Domestic Animals, 75 cents.
Cole's American Veterinarian, 50 cents.
Bement's Poulterer's Companion, $1.
Browne's American Poultry-Yard, $1.
The American Fowl Breeder, 25 cents.
Guenon's Treatise on Milch Cows, 62½ cents.
Miner's Bee-keeper's Manual, $1.
Morrell's American Shepherd, $1.
Youatt on the Pig, 65 cents.
Leuchar's Treatise on Heating Hot-houses, $1.
Miss Beecher's Domestic Economy, and Domestic Receipt Book, 75 cents each.
Webster's large Dictionary, new edition, $6.
The Horticulturist, $3.50 per vol., bound.
The Cultivator, $1.25 per vol., bound.

NOTES FOR THE MONTH.

Acknowledgments.—We have received communications since our last, from G. J., J. W. Proctor, Otis Dillingham, Levi Bartlett, G. M., David Thomas, A Young Housewife, An Inexperienced Fruit-grower, R. T. Robinson, John S. Pettibone, A Subscriber, A. J. Little, A Constant Reader, J. J. Craig, S. E. Todd, D. T., J. Chase Jr., J. C. J., C. E. G., J. T. P., W. L. Eaton, Hon. F. Holbrook, Prof. J. P. Norton, W. P., Berkshire, Levi Durand, R. D. Weeks, F. B. Fancher, Wm. Bacon, I. Hildreth, G. B. D., John Townley, Eds. Am. Agriculturist, A Wool-Grower.

Books, Pamphlets, &c. have been received as follows: Report of Hort. Exhibition at Salem, Mass., Sept. 1850, from the Essex Institute.——Transactions of the Licking county (O.) Ag. Society, for 1850.——Catalogue of the Nursery of Geo. B. Deacon, Burlington, N. J.——Meshullam! or Tidings from Jerusalem, from the Author.——The Farmer's Guide, No. 13, from L. Scott & Co., publishers, New-York.——Harper's New Monthly Magazine; Lossing's Pictorial Field Book of the Revolution, No. 11 and Harper's Illustrated Catalogue, from Harper & Brothers, New-York.

To Correspondents.—Several communications intended for this number, are necessarily deferred till next month. Among them, those from the Eds. Am. Agriculturist, R. T. Bobinson, and some others. Answers to several Inquiries, are also unavoidably postponed.

New-York State Agricultural Society.—In our notice of the doings of the Society last month, we inadvertently omitted to state that a delegation to attend the World's Fair had been appointed, consisting of Hon. Martin Van Buren, Hon. John A. King, E. P. Prentice, Esq., Harvey Baldwin, Esq., and B. P. Johnson, Esq. At the meeting of the Executive Board for February, it was announced that Mr. Van Buren had declined accepting the station, and the vacancy which was thus occasioned, was filled by the appointment of Henry Wager, Esq. At the same meeting the final location of the next State Fair at Rochester was agreed on—the citizens of that place having complied with the preliminary requisitions of the Society.

Apples for Stock.—In a late excursion through a portion of Otsego county, (an account of which is unavoidably deferred,) we noticed that many farmers were in the practice of feeding apples to their stock. Calves, of last spring, and sheep, were the animals to which they were more commonly given. All agreed that they were very beneficial for this purpose. The apples were gathered in the fall and secured either in a cellar under the barn, or protected from frost in some other convenient situation. The quantity fed to calves, was about half a peck to each, daily. They evidently greatly promoted the thrift of the animals,—not only by the nutriment which they imparted, but also by their healthful action as a condiment and gentle cathartic—sharpening the appetite and causing the dry hay to be better digested and assimilated. We have seldom seen calves which made a better appearance in mid-winter, than several lots shown us that had been fed in this way. We do not hesitate to say, that every farmer would find an acre of ground appropriated to raising apples for stock, one of the most profitable investments of his capital and labor.

Models of Fruit.—Mr. T. Glover, of Fishkill Landing, has made some important improvements in the art of modelling fruits. At the late meeting of the State Ag. Society, he presented a collection comprising models of apples, pears, plums, nectarines, cherries, strawberries, &c., each forming such a beautiful and perfect representation of the fruit, that it required close inspection to detect the deceit. Such models may be made highly valuable in furnishing correct ideas of the peculiar characters of the various kinds of fruit, being in this respect much superior to drawings or paintings. Cabinets may in this way be obtained of the most desirable varieties, which would serve as standards for comparison, and which would be of great utility in conveying correct information on the subject. We are pleased to learn that the State Society has taken measures to procure models of this kind.

Maple Molasses.—Mr. H. B. Bartlett, of Paris Hill, Oneida county, exhibited at the late annual meeting of the New-York State Ag. Society, a specimen of maple molasses, which was superior to any we have ever seen. It was made in 1850, and Mr. B. stated that he frequently kept it till it was two years old; that it never needed scalding, but would keep any length of time in any climate. We understand that the details of the process of manufacture will be furnished by Mr. B. for the *Transactions*.

Budding Peach Trees.—In our volume for 1849, p. 182, R. H. Drake, in answer to an inquiry in regard to the destruction of newly set peach buds by the winter, states that to obviate this result he commences budding early in August, or as soon as the fruit buds can be distinguished from the leaf buds, and that by thus allowing the bud more time to adapt itself to its new situation, it seldom fails. Caleb Smith, of Shelburne, Mass., writes us that he has adopted this mode with good success, and he tenders his thanks to Mr. Drake for the suggestion.

"Boys Department."—In reference to the suggestion of a correspondent, we have only to say that we shall at all times be pleased to receive articles from the youth which are to become the future farmers of the country; and whenever a sufficiency of material shall justify it, we will cheerfully devote a portion of our journal to a "Boys' Department." The remark that, "it would be well for boys to propose questions for such a department to be answered by others," is a good one, and we shall be pleased to see the idea carried into effect.

Farms in Amherst County, Va.—Mr. W. A. Staples, of this county, writes us—"Many farmers from the valley of Virginia and from Maryland are now settling amongst us—pleased, in most instances, beyond their expectations. We have on two sides of our county, the James river and Kanawha canal. The railroad from Lyncaburgh to Tennessee is rapidly progressing; one from Lynchburgh through the middle of the county to Charlottesville—a distance of only 60 miles—will complete the link in the chain of railroad communication from the north to the south-west. Farms with excellent improvements, and producing tolerably good crops, are worth from $10 to $15 per acre; some with poor improvements, and poorer soil, $3 to $5 per acre. A farm 6½ miles from Lynchburgh, of over 600 acres, half cleared, balance well timbered, but with sorry houses and fences, land lying well but poor, was sold at auction a month ago, on time for $3. Prices of produce here are as follows: Corn 70 cents, oats 60 cents, potatoes 75 to 100 per bushel, hay $20 per ton."

To Destroy the Wooly Aphis.—Mr. James Wilson, of this city, well known as an observing and successful gardener and horticulturist, informs us that this insect can be readily got rid of by the use of fish-oil. With a brush, he puts a little of the oil on the insects, which kills those it touches, and causes the others to leave the tree. It is not necessary to use so much oil as would injure the tree.

Good Sheep.—Mr. G. A. Hanchet, of West Stockholm, St. Lawrence county, N. Y., gives us an account of three sheep which he killed last fall. One was five years old, the others only a year and a half. They were killed immediately from the pasture, without any feeding, and the carcasses and pelts sold for $15,94. The dressed weight of the two youngest, was 107 lbs., that of the other 70 lbs.

Alderney Cow.—R. L. Colt, Esq., of Paterson, N. J., informs us that he has an Alderney cow, four years old, which, three weeks after having produced her second calf, gave eighteen quarts of "rich yellow milk" per day, weighing thirty-six pounds, and at one milking on the 16th of January, nearly five months after calving, gave five and a-half quarts of milk, weighing ten and a-half pounds.

Biographical Memoirs.—The readers of the former volumes of The Cultivator, have noticed that it is one of our legitimate objects to furnish sketches of men who have been particularly distinguished for the benefits they have conferred on the agricultural interest of the country. In accordance with this object, we gave, in our volume for 1844, a brief memoir of Dr. Saml. L. Mitchell, and in 1848, similar papers in reference to Judge Buel, Elkanah Watson, and Thos. G. Fessenden. It will be seen that we have commenced in this number, the publication of a memoir of Col. Timothy Pickering, from the able pen of Hon. John W. Proctor. We are confident that the history of that eminent patriot and farmer, will be read with interest and benefit.

Taplin's Horse-Power.—The original patent for this invention, was left at the office of The Cultivator about nine years ago, and has remained to this time. The person to whom it belongs, can have it on application.

Fumigating Potatoes to Prevent Rot.—We have noticed the recommendation of some person to fumigate potatoes with sulphur, to destroy the spores of fungi, which some suppose is the cause of the disease, or rot. At a late discussion at the State House in Boston, we learn from the Plowman, that the Rev. Mr. Barry stated he had tried this mode. "He took a large box, made holes in the bottom, and fumigated some four hours with sulphur, according to the recommendation of the State Chemist. More rotted among the fumigated potatoes than among those not fumigated, three to one."

WIRE FENCE—CORRECTION.—Mr. GEORGE MANSFIELD of Lowell, Mass., writes us to correct a mistake which occurred in his article on wire fence, as printed in last volume, page 278. In reference to straining the wire, it is said—"Insert your wire through the lever and post," &c. The words *lever and*, should have been omitted. Mr. M. says, "The strainer is made like an old fashioned wrench used to strain a bed-cord, with a small hole in the lower end, instead of a *slot*, as in the bed-wrench."

WINTER WHEAT IN VERMONT.—That part of this state bordering on Lake Champlain, produced, for many years after it was brought into cultivation, excellent crops of winter wheat, but the prevalence of the wheat midge (weevil) from 1830 to 1845, caused such injury to the crop, that little was grown. Within the last few years, the insect has greatly disappeared, and the cultivation of wheat has been resumed with success. WILLETS KEESE, of Peru, N. Y., writes that in a late tour through several towns in the section spoken of, he ascertained that very fine crops of winter wheat were raised last season—several reaching 40 bushels and upwards per acre; and that J. Holmes, of Charlotte, sold fifty-six dollars worth from an acre of ground.

PENNSYLVANIA.—At a convention held at Harrisburgh on the 21st of January, a State Agricultural Society was organized, and a memorial adopted to be presented to the Legislature for an appropriation for the benefit of Agricultural Societies. The Hon. FREDERICK WATTS, was chosen President, with 24 Vice-Presidents—Dr. Elwyn, of Philadelphia, Cor. Sec'y; R. C. Walker, Alleghany county, Rec. Sec'y, and G. H. Bucher, Treasurer.

BREEDS OF COWS FOR BUTTER.—The *American Agriculturist*, speaking of the products of the "Oaks cow" and the "Nourse cow," says, "We can show in many *short-horn* herds. numerous instances of larger yielders, whether of milk or butter." In 1814, the milk of the Oaks cow made 300 lbs. of butter; in 1815, 400 lbs.; in 1816, 484¾ lbs. According to Mr. COLMAN, the Nourse cow yielded 14 lbs. of butter in a week and 224 lbs. in four successive months. Will the *Agriculturist* be good enough to show us the "*numerous instances of larger yielders from short-horn herds?*"

"**BURRALL'S REAPER.**"—In our advertising department, will be found Mr. BURRALL'S description of this machine. We have never seen it in operation, but those who have tried it, speak of it in very favorable terms. At the State Fair at Syracuse, it received a diploma as "the best grain reaper for general purposes and the farming interest of New-York"—Mr. MCCORMICK'S receiving the same award, as being adapted to "extensive farmers."

MORGAN HORSE "BLACK-HAWK."—By reference to our advertising columns, it will be seen that this noted animal is at his old stand. His reputation as the sire of valuable stock, is undiminished.

ESSEX COUNTY (N. Y.) AGRICULTURAL SOCIETY.—This Society has resolved to hold its annual exhibitions at Elizabethtown for the next five years. The president of this society is W. C. WATSON, of Port Kent; the secretary is ROBERT S. HALE, of Elizabethtown.

CHEAPEST MODE OF LIGHTING A HOUSE.—"A YOUNG HOUSEKEEPER" wishes information in regard to the cheapest and best mode of lighting a house—whether by oil, lard, camphene, or candles, and the best apparatus for burning the various articles. We shall be glad to hear from *experienced* "housekeepers" on the subject.

BROWN CORN.—We are able to inform our correspondent "H. R." of Geneva, that he can be supplied with this variety of corn—from seed received direct from Lake Winnipissiogee two years since—on application to WM. W. STACEY, Aubrey Farm, Fayette, Seneca co. Mr. S. has also the large and prolific white corn.

MULES VS. HORSES.—A correspondent of the South Carolina *Farmer* and *Planter*, who appears to have had much experience in raising mules and horses, states that he has kept a particular account of the expenses of each, for the last ten years, and he says "*in no instance* have I ever been able to bring the horse to the plow, for less than from fifty to sixty dollars; on the other hand, I *have invariably* brought the mule to the collar for twenty to twenty-five dollars." In regard to the comparative expense of keeping, he says "the mule can be kept in as good condition as the horse, and will perform the same labor, however severe, *in the same time and on about one-half the feed.*" In addition to this, the mule will out-live the horse by fifteen to twenty years, and is seldom sick or crippled.

FOWLS FOR FLORIDA.—Our attention was called a few days since to two pair of beautiful game fowls which were passing *via* express to Dr. T. Y. HENRY, of Quincy, Fa. They were from Mr. T. C. ABRAHAMS of West Troy.

☞ Persons wishing to purchase choice fowls will find several kinds advertised by MR. PLATT, in this number.

Prince's

Linnæan Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & CO., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable Fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears, 50,000 trees can be supplied, of which 15,000 are of bearing age, on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be obtained elsewhere. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

A wholesale Catalogue will be sent to all Venders.

The transportation to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the impossibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. March 1, 1851—2t

GUANO.

WE are in daily expectation of arrivals of Peruvian Guano. Those wishing to order, will do well to do so at the earliest moment. A. B. ALLEN & CO.,

New-York Agricultural Warehouse and Seed Store,

Feb. 1—3t. 189 & 191 Water st.

To Fruit Growers.

THE Subscriber cultivates at his various Nurseries, and has for sale at his residence, *Eustis-Street*, Roxbury, Mass, all the choice varieties of the PEAR, APPLE, PLUM, CHERRY, PEACH, and other Fruit Trees. *Raspberries*, *Gooseberries*, *Currants*, *Grape Vines*, *Strawberries*, *Asparagus Roots*, *&c., &c.* Also several thousand Pear Trees on the Quince—one, two, three, four, and five years from the bud. Particular attention paid to the cultivation of the PEAR. Persons wishing extra sized trees, or trees on Quince stock in a bearing state, will please call at the Nurseries and make their own selection.

Buckthorn for Hedges—One, two and three years old. Ornamental Trees, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

Scions of all the varieties of the Pear of established reputation, and also of other fruits. The whole for sale at the market price.

SAMUEL WALKER,
Roxbury, March 1, 1851—2t. Roxbury, Mass.

Prouty & Mears' Celebrated Premium Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New York.

Mar. 1—1t. BARR & ATTERBURY.

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.

Also, *Eagle Center-Draught*, and all Plows in general use.

Corn Shellers, with single and double hoppers.

Straw Cutters—Hoveys's, Green's, Sinclair's and others.

Horse Powers—Badger's Improved, and Bogardus' Patents.

Fan Mills—Grant's Premium, and Clow's Rotary Screw.

Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

SEEDLING STOCKS, &c., FOR SALE.

APPLE (50,000) of two years growth, one to two feet in height, per thousand, $5; eight to twelve inches, per thousand, $3; Cherry (3000) of two years, transplanted, per thousand, $10; Franconia Raspberry Canes (2000) per thousand, $4; large early Scarlet Strawberry Plants, per thousand, $3.

The above will be packed for *California* or elsewhere, and delivered in New York free of all expense on all orders to the amount of $10, enclosing the cash.

☞ *Apple* Seedlings in large quantities at a reduced price.

PHILETUS PHILLIPS.
Middletown Point, Monmouth co., N. J. March 1—1t.*

Choice Poultry for Sale.

SEVERAL pairs of Fowls, comprising specimens of the celebrated Shanghae variety, of the "Marsh" and the "Fussel" stocks, which are much sought after in Massachusetts; also very superior Polish or Top-knot Fowls, and a few very choice specimens of a variety called the "Albany Dorking," well known and much esteemed in this vicinity. E. E. PLATT.

Albany, March 1—1t.*

NEW SUBSOIL PLOW.

THE subscribers offer for sale an improved Subsoil Plow, made under the advisement of Professor J. J. Mapes, and free from the objections urged against those formerly in use. The wearing parts are so arranged that they may be easily and cheaply renewed; while the amount of force requisite to move them is less than half that required by those previously made.

Price for No. 1, plain,........................$7 00
" " with Draft Rod,.............. 8 50
" No. 2, " "........ ......11 00

To be had at the State Agricultural Warehouse, No. 25 Cliff street, New York. Mar. 1—1t. BARR & ATTERBURY.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan STALLION, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Good pasturage will be afforded at 3 shillings per week—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.
Bridport, Vt., March 1—4t.

Emery's Horse-powers and Threshers.

EMERY & CO.'s Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff street, New York.

Mar. 1—1t. BARR & ATTERBURY.

GUANO.

THE subscribers would inform the Farmers and others that they have just received by Bark Warwick, their supply of Peruvian Guano, which they will sell in bags averaging 150 lbs., at 2½ cents per lb. As the quantity is small in the market, our customers would do well to send us their orders at the earliest moment.

BARR & ATTERBURY,
State Agricultural Warehouse, No. 25 Cliff street, New York.
Mar. 1—1t

SAXONY SHEEP.

THE subscriber has for sale one hundred Saxony Sheep, selected a few years since by S. Whitman, Esq., of West Hartford, from the Strong Flock of Northampton. There are ten full blooded Bucks in the number; the rest are principally Ewes. These Sheep are good size, and excellent quality of wool. They will be sold reasonably. Enquire of the subscriber at Woodbury, Litchfield county, Connecticut. N. B. SMITH.

Woodbury, March 1, 1851—1t.

William Hovey's Patent Hay Cutter.

THESE machines are manufactured by the Patentee at Worcester, Mass., corner of Union and Exchange streets, where they will be sold wholesale and retail, as cheap, and on as good terms as any other Cylinder Cutter made in Worcester or elsewhere; also the Cylinder of Knives, including the Patent Right, at prices as low as they can be made by others. The Patentee has opened a Ware Room at the State Agricultural Warehouse, No. 25 Cliff street, New York, where a large assortment of his own machines, and also all other kinds of Cylinder Cutters, will be sold as cheap and on as good terms as they can be had from the makers. All Cutters manufactured by the patentee will be marked on the castings Wm. Hovey's Patent, Worcester, Mass. All Cylinder Cutters not marked Wm. Hovey's Patent, 1844, may be considered extremely deficient, as they have no means of adjusting the knives on the cylinders. These facts have been fully decided at almost every Fair in the United States, whenever these machines have come in competition with Wm. Hovey's Patent Cutter. He has been awarded by various Mechanical and Agricultural Committees several large cash premiums and six silver medals for the superior merits of his improvements in adjusting the knives on the cylinder.

CAUTION.—Look well as to these facts and to the marks on the castings—other Hoveys of Worcester, through the ingenious arrangement with Messrs. John Mayher & Co., who were, until recently, sole agents for Wm. Hovey's Patent Straw Cutter, may mislead their customers by offering Cutters made by Hovey of Worcester, all of which would be true, but *not* Wm. Hovey's Patent.

Worcester, Mar. 1—1t. WM. HOVEY.

WORLD'S FAIR ART UNION.

Under the Management of the New York Art-Union Company, incorporated by the Legislature of the State of New York.

THE Company intend to secure the services of a first-rate American Artist, who will proceed to London and make a sketch of the interior of the Great World's Fair in the very zenith of its splendor, when every thing will be displayed to the greatest possible advantage on the occasion of the visit thereto of the projector, the Prince Albert, his consort the Queen of England, and their children. From this sketch the engraving will be made, and will in itself be worth more than $5, according to the price usually charged by printsellers.

The number of shareholders is limited by the act of incorporation to 4,000.

Each shareholder will be entitled to a copy of the Engraving and a chance in the distribution of profits.

The accounts will stand thus:

4,000 shares at $5 each, will be....................$20,000
The engraving, and 4,000 copies will cost....$5,000
The expense of management, advertisements,
&c., &c., will not exceed..................2,500
Total expenditure......——— 7,500

Which deducted from $20.500 leaves $12,500 as profits.

These profits are to be employed in furnishing to fifty of the Shareholders a free first-cabin passage from New York to London and back, and in addition paying the expenses in London to the extent of $100 each of 25 of the 50 Shareholders thus furnished with free passages—thus: 25 Shareholders will have a free first-cabin passage to London and back and $100 in money to pay expenses while there, and 25 other Shareholders will have a free first-cabin passage to London and back.

In addition: Every Shareholder has a copy of the magnificent Engraving to be got up by the Company, and which will be worth at least twice the amount charged for one share.

The right to have the free passage, &c., &c., will be determined in the ordinary manner of Art-Unions, and in ample season to give time to proceed to London so as to be present at the most brilliant part of the exhibition.

In case any Shareholder should get a right of free passage and not desire to use it, he may receive its equivalent in money.

Any person desiring a share should send by Mail a request directed "The World's Fair Art Union, 50 Wall street, New York," enclosing $5 in funds current in his State.

The Trustees have resolved to make an allowance of 5 per cent. on all orders for more than 4 shares, and to send 10 shares on receipt of $45.

☞ Remittances by Mail at the risk of the Company. All letters must be pre-paid, and drafts made payable to the Secretary.

By order, J. TOWNSEND, Sec'y.
Mar. 1—1t*.

COMMERCIAL GARDEN AND NURSERY

Of Parsons & Co., Flushing, near New-York.

THE Proprietors of this establishment offer for sale their usual assortment of FRUIT AND ORNAMENTAL TREES, SHRUBS, VINES, ROSES, &c. Their stock of Apples and Pears is finer than any they have before offered. Also Pears on Quince, of their own growing. The Ornamental Department contains the usual well known varieties, all the best new Trees and Shrubs for Lawns and Arboretums, including the new Pines, Araucaria Imbricata, Cryptomeria Japonica, with Cedar of Lebanon, at one to two dollars each; and Cedrus Deodara of various sizes, at $1 per foot.

Catalogues furnished gratis on application by mail. March 1—1t.

TO FRUIT GROWERS AND NURSERYMEN.

ELLWANGER & BARRY solicit the attention of all Tree Planters, Nurserymen and Dealers, to their present stock, which is much larger and better than they have ever before had the pleasure of offering. It embraces among other things in large quantities,

Standard Fruit Trees—of all sorts.

Dwarf and Pyramidal Fruit Trees—for Gardens.

Gooseberries, Strawberries, Raspberries, Currants, &c.—all the newest and best kinds.

Ornamental Trees, Shrubs, Roses, &c.—including all new, rare, and desirable articles.

Buckthorn, Osage Orange, and other Hedge plants.

Stocks of all sorts—for Nurseries.

Green-house, Border and Bedding Plants.

Double Dahlias, &c.—in immense quantities.

Wholesale prices furnished when desired.

A new edition of the General Descriptive Catalogue is nowr eady, and will be sent gratis to those who apply *post paid*.

Mount Hope Garden and Nurseries, Rochester, N. Y., March 1, 1851—2t.

GREEN-HOUSE PLANTS, VINES AND ROSES.

PARSONS & Co. offer for sale every desirable variety of Green-House Plants, and many valuable novelties recently introduced from Europe. Growers of Grapes are invited to examine their Vineries, from which they can furnish good vines of about forty varieties at

50 cents for those one year old—75 cents for those two year old—$1.00 for those of extra size.

Their stock of saleable Roses, includes some thousands on their own roots, of the Remontantes, Bourbon, China and Garden Roses, in their various sub-classes.

Catalogues furnished on application by mail, to *Flushing*, near New-York. March 1—1t.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

John Mayher & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels.

Poudrette—At the manufacturers' lowest prices.

JOHN MATHER & Co.
March 1—tf. 197 Water Street, New-York.

Agricultural Machine Shop, Geneva, N. Y.

Wheel Plows,
Clod Crushers,
Grain Drills,
Thrashing Machines,
Corn Shellers,
Road Scrapers,
Cultivators,
Field Rollers,
Grain Reapers,
Clover Machines,
Straw Cutters,
Horse Powers, &c. &c.

Made and sold (wholesale and retail) by E. J. BURRALL.

AT THE late State Fair at Syracuse, the FIRST PREMIUM was awarded to Thomas D. Burrall for the best GRAIN REAPER, in competition with Hussey's and McCormick's, (both present.) Since then, he has perfected another, containing many new and splendid improvements, which render it a machine of greater utility, strength and durability, than any ever before offered to the public.

1st. It has a balance wheel on the top of the crank shaft, which aids the driving wheel in crossing water furrows, relieves the gearings from the violence of the crank motion, increases the effective force of the cutters, forms a convenient level for shifting the wheels for oiling, and by the uniform motion produced by its compensating power, gives a new character to the whole machine.

2d. It cuts at any height required, and discharges the grain at the side or in the rear if preferred, by a few minutes change.

3d. By means of a new guard of cast iron, (which will neither bend nor break,) neatly fitted to the knives, it cuts grain, timothy or clover seed, (wet or dry,) without clogging. In addition to these important improvements, the frame is strong and compact, and lies above all the level of the apron, in order to pass through gates and over water furrows, without hitting.

The wheel is large, and works well on rough ground; the shifting gear, and the entire arrangement of the working parts, extremely neat and convenient, and the whole made of the best materials, and finished with great care.

It has no reel to waste the grain, no pullies, straps, or loose harness to get out of order, but is strong and simple, just what the Farmer needs to do his work well, without the risk of loss by breaking down in the midst of his harvest.

It is warranted to be thoroughly built, and to work well; and if any part proves defective and is returned, it is to be made good without charge; and the machine when sold, is made to work well, or the money returned.

TERMS—Cash or approved notes. Orders should be sent in *early*, to give time for perfect work.

SIZES.—No. 1, 4 *feet* 6 *in. No.* 2, 5 *feet. No.* 3, 5 *feet* 6 *in. No* 4, 6 *feet cut.*

Burrall's Reaper.

As the REAPER has been in use during the past season only, the following testimonials from respectable farmers are offered:

Wolcot, Nov. 1, 1850.

I used one of Mr. Burrall's new Reapers to cut about twenty acres of wheat last harvest. It requires but two horses, does its work well, cuts clean whether the grain be wet or dry, and leaves the sheaves in fine order for binding. I know no machine that runs lighter or makes better work. WILLIAM STUBBS.

Phelps, 5th Sept., 1850.

I hereby certify that I have seen Mr. Burrall's new Grain Reaper thoroughly tried, and am satisfied that it can never be clogged, but will cut grain of all kinds, and clover seeds in all conditions. The Gearings and frame are uncommonly strong, and well arranged; and every part of the machine is got up in first rate order for convenience and durability. It requires no faster walk, or harder draft for horses, than common plowing. I have no hesitation in recommending it as the best I have ever seen. WM. P. DIMICK.

Benton Farm, Ontario county.

I have one of Mr. Burrall's new Reapers, and have tried it this fall for cutting clover seed. I have cut from 15 to 20 acres, and find it does the work well, and beyond my best expectations. It is easily shifted in a few minutes, so as to cut close to the ground, or at any height required, and never clogs even in the stoutest grass. It is very strong in all its parts, and very convenient for use. It requires but a moderate motion for the team, and may be worked by oxen as well as horses. I think it does not require as heavy draft as ordinary cross plowing. THOMAS BUTCHER.

We the undersigned, have seen the machine at work, and fully concur in the above statement.

P. COPELAND.
WILSON BUTCHER,
25th Oct., 1850. SYLVESTER JUDD.

Seneca, 12th Sept., 1850.

Mr. Burrall—Sir: I have used your new Grain Reaper this season, and am not only entirely pleased with it, but perfectly convinced that it is the best I have ever seen, as it runs lighter, cuts better, and is far more convenient, especially on rough ground—it is thoroughly finished with brass boxes and steel couplings throughout. The construction and arrangement of the whole are exceedingly strong and durable, and by a very neat and ingenious contrivance, it is made to cut the grain at any height.

I have no doubt of its entire success, and con confidently recommend it to the public as a very valuable improvement.

W. W. BRISTOL.

Burrall's Wheel Plows,

Work well in all soils, and save about one-third of the draft. 3.500 now in use, and demand steadily increasing. For sale, (wholesale and retail) GENEVA, Ontario county, N. Y. E. J. BURRALL.

March 1—1t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. beg leave to call the attention of *Dea ers* and *Planters* of trees, and the public in general, to their very large and complete stock of FRUIT AND ORNAMENTAL TREES, which they offer for sale the coming spring. The trees of these Nurseries are all grown on the premises, and propagated under the immediate supervision of Mr. SAUL, whose long connection with this establishment is some guarantee for the accuracy of the stock now offered for sale. It consists in part of over

20,000 Pear Trees, 5 to 8 feet high, and embracing all the leading Standard Varieties, as well as those recently introduced, of merit, either of American or Foreign origin.

20,000 Apple Trees, of *extra size*, 8 to 10 and 12 feet high, including every variety worthy of cultivation.

10,000 Plum Trees, 6 to 8 feet, of every known kind of reputation, as well as all the novelties of recent introduction.

10,000 Cherry Trees, 6 to 8 feet and over, among which will be found all the desirable and choice varieties.

A large stock of handsome, well grown trees, of Peach, Apricot, Nectarine and Quince, in every variety. Also,

Grapevines, Native and Foreign, Raspberries, Gooseberries and Currants, Strawberry plants and Esculent Roots, such as Asparagus, Rhubarb, Seakale, &c , of the most approved kinds.

Pear on Quince, Cherry on Mahaleb, and Apple on Paradise stocks—for Pyramids or Dwarfs for garden culture, and embraces all the kinds that succeed on those stocks.

Deciduous and Evergreen Ornamental Trees & Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailantus, Horse Chestnut, Catalpa, European and American Ash, Three Thorned Acacia, Kentucky Coffee Tree, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Araucaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews. Arborviteas, &c.

Weeping Trees.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, Weeping Japanese Sophora, Weeping Elms, (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Tom and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn and Osage for Hedge plants.

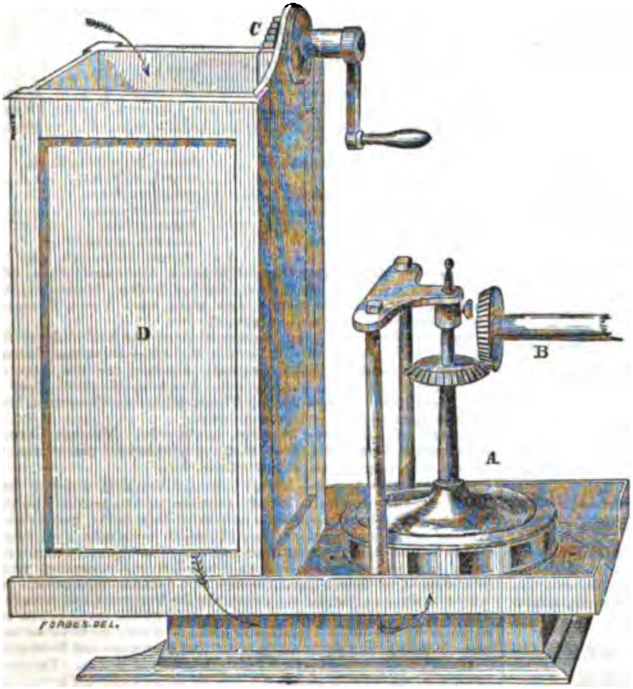
The above will be sold on as liberal terms as similar stock can be purchased elsewhere. For further particulars we would again refer to priced Catalouge. A liberal discount will be made to persons who buy to sell again, and extensive planters on their own account.

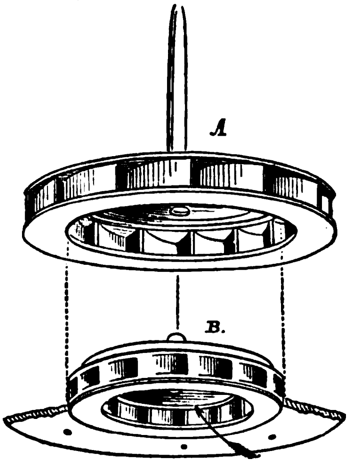
Newburgh, March 1, 1851—2t.

Dwarf and Standard Pear Trees.

PARSONS & CO. have just received from the Ship a fine lot of Pears on Quince, and on their own root, comprising the most esteemed varieties.

The presence of one of their firm in Europe, and consequent advantageous purchases, enable them to offer these trees at prices much reduced from last year. They also offer their usual assortment of Pears of their own growth. Flushing, L. I., March 1, 1851—1t.





EXPLANATION OF DIAGRAM.

(A) Wheel to which the shaft is attached.
(B) Line of shaft and bevel wheels, which can be arranged as desired.
(C) Rack and pinion to raise the gate.
(D) Penstock or floom, into the top or side of which the water can be brought.

IN PERSPECTIVE VIEW.

(A) Shows out and inside of buckets.
(B) Shows inside form or shutes.
The arrows show the course in which the water is taken to the wheel.

UNRIVALED IMPROVEMENT IN WATER WHEELS.--IMPORTANT TO MILL OWNERS.

THE subscribers are sole agents for making and vending the *Best Water Wheel in the World*—known as VANDEWATER'S **Patent Improved Turbine Water Wheel.**

It has been fully tested, and found far in advance of all other wheels, both in power, and economy in the use of water. Every drop is effective, and none wasted. The wheel is not obstructed by ice. or affected by back water; is more durable, and requires less room than any other. The following statement will show the power of different sizes, under different heads, with a given quantity of water:

Head of Water.	Four foot wheel, using 68 inches—will grind	Five foot wheel—using 108 inches—will grind	Six foot wheel using 225 inches—will grind	Seven foot wheel, using 400 inches—will grind
5 foot.	3 bushels wheat per hour.	5 bushels wheat per hour.	12 bushels wheat per hour.	21 bushels wheat per hour
8 "	6 do do	11 do do	23 do do	42 do do
11 "	9 do do	17 do do	35 do do	63 do do
14 "	12 do do	22 do do	46 do do	83 do do
17 "	15 do do	28 do do	58 do do	104 do do
20 "	18 do do	32 do do	71 do do	126 do do
24 "	22 do do	43 do do	90 do do	154 do do
28 "	26 do do	51 do do	110 do do	182 do do

We are prepared to fill orders for Wheels, and Mill Work of every description, at short notice. Mr. JAGGER is a practical Mill-wright and will be at all times ready to furnish information or drawings. Persons ordering wheels, will please give full descriptions of their power work, &c.; also which way they are to run.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works, No. 110 Beaver-street, Albany, N. Y.

March 1—2t.

Great Books for Farmers, Gardeners and Horticulturists,

And a Rare Chance for Agents to make Money.

JOHN P. JEWETT & COMPANY, Publishers, Nos. 17 and 19 CORNHILL, BOSTON, take pleasure in announcing to the intelligent Farmers, Gardeners and Horticulturists of the United States, that they have at length completed their valuable collection of works on Agriculture, and its kindred sciences, and that the two last of the series are now in the hands of the stereotypers, and will be ready for delivery to subscribers and others on or before the first day of March. The two volumes now in press are, first,

Breck's Book of Flowers,

By Joseph Breck, Esq., of Brighton,

For many years editor and publisher of the "New-England Farmer," and one of the most distinguished Florists in America. This volume contains the results of the practical experience of a man of taste and science, and is, without doubt, the most thorough and reliable book, on the cultivation of Flowers and the laying out of Flower Gardens, to be found in any language; it is emphatically the Ladies' and Gentlemen's complete Floral Vade Mecum. This book will be in 12mo. form, containing about 336 pages, fine cloth binding, and we have determined to sell it at 75 CENTS, to bring it within the means of all, and to ensure a large sale, as it is a book which every lover of Flowers must own.

The second in the series is—

The Kitchen Gardener's Text Book,

By one of the most distinguished Gardeners of New-Jersey. This is truly a practical work, avoiding useless, and to the masses, unmeaning technicalities, the author handles his subjects with the skill of a thoroughly versed, common-sense practitioner. With the aid of this volume the merest Tyro may rapidly advance through the various stages of Horticultural knowledge, to complete success. A simple and practical and cheap work on this subject has long been needed. The price of this book will be 50 CENTS,—12mo., 216 pages, handsomely bound in cloth.

The third book is—

A Treatise on Hot-Houses,

By Robert B. Leuchars, Garden Architect.

This work, by Mr. Leuchars, who is one of the most distinguished among the many Scotch Gardeners of America, is a practical treatise on the

Construction, Heating and Ventilation of Hot-Houses,

including CONSERVATORIES, GREEN-HOUSES, GRAPERIES, and other Kinds of

HORTICULTURAL STRUCTURES,

with practical directions for their management in regard to LIGHT, HEAT and AIR. Illustrated with more than SEVENTY ENGRAVINGS. This is the first and only work of the kind ever published in this country or in Europe, and is recommended very highly by professors Silliman and Dana of Yale College. and by many other scientific gentlemen. Price one dollar. It is a very learned work, and an invaluable one to any person who owns, or who intends to erect, either of the structures on which it so ably treats.

The fourth book is—

MR. COLE'S GREAT WORK ON

THE DISEASES OF ANIMALS,

OR THE AMERICAN VETERINARIAN,

30,000 copies of which have already been sold, and the sale of which continues in a manner almost without a precedent. To every man who owns a horse, a cow, a pig, or even a hen, this work, by Mr. Cole, is of more value than ten times its cost.

The lives of many valuable animals have already been saved by following Mr. Cole's plain directions for their treatment when sick.—This is the cheapest work of the kind ever published in America, being but 50 CENTS at retail, and we do not believe that any farmer would willingly be without it, if placed within his reach.

The fifth book is—

MR. COLE'S OTHER VALUABLE WORK,

THE AMERICAN FRUIT BOOK,

Or, Fruits and Fruit Trees of America,

18,000 of which have been published in less than two years.

This beautiful and thorough work is illustrated by over 200 engravings, of Apples, Pears, Peaches, Plums, Cherries, Grapes, Raspberries, Gooseberries, Currants, &c. &c., and the various Fruit Trees of our country; also cuts representing the various modes of training vines and the different styles of grafting, budding, pruning, &c. It is a work which, for accuracy of description and reliability, has never been exceeded, if equalled, and contains more than twice the amount of matter of any other Fruit Book published in America at the same price, viz: 50 CENTS. We could fill a volume with the recommendations of Mr. Coles's two books, which we have received from the most eminent Farmers and Horticulturists of New-England, the Middle States and the great West.

A Word now to Agents.

We are new prepared to offer to capable, responsible, and energetic Book Agents, a chance for making money, such as seldom occurs. With the above five works, an agent of tact or ability could hardly fall upon a spot so barren that he could not dispose of one or more of these works, and in many cases would sell one of each; and in populous districts, a large number of copies could be sold daily. We intend to district out the New-England States, mostly into counties. Also, the States of New-York, Pennsylvania, New-Jersey, Ohio, and the Western States, we should prefer to dispose of, to some one individual in each state, for him to district out into sub-agencies.

The books will be ready for delivery by the 1st of March, and it is important that the various Counties and States should be disposed of before that time. A cash capital of $30 to $50 will be needed by every agent for a County, and a much larger sum by a State agent.

Address, post-paid, the Publishers, JOHN P. JEWETT & Co.,
March 1—2t. 17 & 19 Cornhill, Boston.

NEW AND VALUABLE PLANTS,

For the Nursery, Garden and Pleasure Grounds.

B. M. WATSON offers for sale at the OLD COLONY NURSERIES, PLYMOUTH, MASS., a very complete assortment of plants, including all those of recent introduction, consisting in part of *Pear*, Quince, Paradise, Mahaleb, Plum, Cherry and Apple stocks, at the lowest rates.

Young Trees, 3 to 5 feet high, in great variety, mostly at from $5 to $12 dollars per 100, of the finest deciduous sorts, for nurseries or young plantations, and *Evergreens* from seed, from 1 to 1½ feet.

Dwarf Pear, Apple, Cherry, Plum, Apricot and Nectarine. Trees in a bearing state, or nearly so, of the finest and best established sorts, at the usual rates.

Standard Trees of the same. Diana Grape, $1.

Scions of the best Apples, $1 per 100. Pears and other Fruit and Ornamental Trees and Shrubs, $2 per 100. In large quantities at low rates.

Currants, including all the new sorts. Raspberries, Gooseberries in great variety, and Rhubarb, at $1.50 per dozen—$10 per 100.

Strawberries, in 20 fine varieties, mostly at $1 per 100. Burr's New Pine, $2, Iowa, $2, Jenney's Seedling, $1.50 per 100. Richardson's Seedlings, (fine) 50 cents per dozen.

English Walnut, Spanish Chestnut, Filberts and other nuts. Black English Mulberry, (the best,) Medlars, &c.

Ornamental Trees, including many new and interesting varieties of Arabia, Æsculus, Ash, Beech, Birch, Cherry, Chestnut, Elm, Hawthorn, (12 var.) Laburnum, Linden, Magnolia, Maple, Oak, Plane, Willow, and many other genera.

Shrubs, including many fine sorts of Althea, Arbutus, Berberis, Calycanthus, Cheonanthus, Cotoneaster, Cytissus, Daphne, Deutzia, Hydrangea, Halesia, Pyrus, Ligustrum, Lonicera, Peonia, Philadelphus, Ribes, Spirea, Lilac, Tamarix, Viburnum, Xylosteum, and among others,

Forsythia viridissima,
Wiegela rosea,
Lonicera Ledebourii,
Chimonanthus fragrans,
—— grandiflorus,
Lilacs, 8 fine sorts,

Spirea prunifolia, fl. pl.
—— Lindleyana,
—— Douglassi,
—— Reevesii,
Ribes albida,
—— sanguinea, fl. pl.
Pyrus, double crimson.

Evergreen Shrubs, consisting of Arbutus, Andromeda, Box, Euonymus, Gaultheria, Holly, Laurel, Juniper, Ledum, Menzeizii, Rhododendron, 8 sorts, Vaccinium vitis idæa, Irish Yews, Evergreen Oak, Mahonia aquifolium, (excellent.)

Rare Conifers, including Deodar Cedars, one-half to three feet; Cedar of Lebanon. Araucaria imbricata; *Abies* Douglassi, Menziezii and Cephilonica; *Pinus* Austriaca, cembra, excelsia, gerardiana, halepensis, insignis, Lambertiania, Morinda, Mughus; *Picea* nobilis, picta, pindrow, spectabilis; *Thuya* filiformis, Chinensis; Cryptomeria japonica, Salisburia adiantifolia.

Vines and Climbers—Wistaria, (sorts,) Joy, Virginia Creeper, Aristolochia, *Clematis* azurea, flammula, Sieboldtii and others, Periploca, Climbing Roses, Honeysuckles, &c.

Calestegia Pubescens.—This new and beautiful climber, introduced recently from China by Mr. Fortune, proves perfectly hardy in New-England, having stood *the winter of* 1850 *in the grounds here*, without any protection whatever. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers of a delicate rose color. It is very ornamental, planted in patches like the Verbenas, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of trees in a very picturesque manner. It is therefore particularly suited for Cemeteries and Public Gardens. Strong plants in pots, $1 per pair—$4 per dozen. Tubers for 100 plants, $5,—for 50 plants, $3, sent by mail or express at any time, with directions for propagation and culture.

Prairie and other Running Roses, Perpetual, Bourbon, Tea and China Roses, in great variety.

For Bedding out.—Chrysanthemums, (30 new varieties) and Dahlias, $2 per dozen—Verbenas, including Reine de Jour, Iphigenia, St. Margaret, Robinson's Defiance, and 20 other sorts, $1.50 per dozen—Fuchsias, a fine collection; Carnations and Calestegia pubescens. $4 per dozen—Scarlet and other Geraniums, Salvias, Veronica Lindleyana, Lobelias. Double white Feverfew: Heliotropes Souvenir de Leige, Voltairianum and intermedia, $2.50 per dozen. Ipomeas; Maurandia alba, rosea and Barclayana; Cobea, Lophospermum, Physanthes alba, &c., $2.50 per dozen.—Plumbago Larpentae, 50 cents—Cestrum aurantiacum, 50 cents—Asclepias curassavica, 25 cents.

⁂ Priced lists sent post paid, on application. ☞ Carriage of all packages paid to Boston. Plymouth, Mass., March 1, 1851—tf.

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TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
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To Farmers, Horse-buyers, Breeders, Breakers, Smiths, &c.

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NOW ready, the Third Thousand of "YOUATT on the Structure and Diseases of the Horse," with their Remedies, brought down to 18 '6, by W. C. SPOONER, M. R. C. V. S., to which is prefixed an account of the Breeds in the United States, compiled by H. S. RANDALL, with 55 illustrations, large 12mo, 483 pages—price $1.50—and for sale by Booksellers generally, through the U. States.

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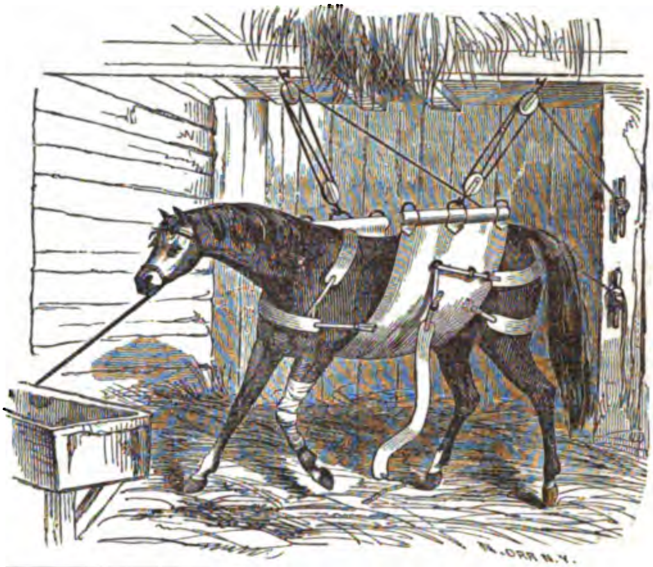
"No less valuable than the animal it describes. Every man who owns or drives a Horse, needs this Book as much as a Horse needs a harness in which to perform his labors, if he would know how to make his beast of the greatest possible service to him."—*Boston Farmer.*

March, 1, 1851.



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For sale at the Nursery of H. Snyder, Kinderhook, Col. Co. N. Y.

THE proprietor of this establishment offers for sale, the coming spring, his usual assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, VINES, ROSES, GREEN-HOUSE PLANTS, &c.

Most of the trees are of large, handsome and thrifty growth, and among them may be found many of the best sorts of Apples, Pears, Plums, Cherries, Peaches, &c., grown in this country.

The stock of Apples and Pears is finer than has been offered before at this establishment.

Also, Pears on Quince stocks—Cherries on Cerasus Mahaleb stocks—Apricots, Nectarines, Grape Vines, Gooseberries and Currants, at the lowest market prices.

Ornamental Trees can be furnished by the hundred, at very reasonable prices, and of various sizes, for ornamental grounds.

EVERGREENS.—The following can be furnished of various sizes: Norway Spruce, Balsam Fir, Arborvitea, Scotch Pine, Deodar Cedar, Cedar of Lebanon, Auricarias, Cryptomeria Japonica, Cupressus. Thurifera, &c.

PLANTS FOR HEDGES.—Privet, Buckthorn, English Hawthorn, Locust, &c.

Seedlings of the following kinds—Sugar Maple, English Sycamore Maple, Horse Chestnut, Black Walnut, White Ash, European Mountain Ash.

A large stock of Apple Seedlings, suitable for root-grafting, at the lowest rate.

Catalogues will be forwarded to all applicants.

Feb. 1, 1851—3t.

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THE subscriber offers for sale the farm on which he now resides, situate four miles from the village of Waupun. The Farm contains 400 acres of land, 200 of which is prairie; the balance openings, timber and meadow land. On the farm there is two new houses, barn, stables, wells of water, and a large quantity of fine fruit trees. 200 acres are under good cultivation, near 50 of which is in winter wheat—100 tons of good hay may be cut on the place. The farm is well watered, and is without exception, one of the best farms in the state. It can be easily divided into three splendid farms, and will be sold together or separate. The price will be made low, and terms easy. Enquire, post-paid, of TOWNSEND GREEN, Waupun, Fond Du La co., Wisconsin. Feb. 1, 1851—2t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞ Capital $50,000! ☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

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Transactions N. Y. S. Ag. Society.

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Yellow Bell-flower.
Swaar.
Westfield Seek-no-further.
Rambo.
Esopus Spitzenburgh.
Roxbury Russet.
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Green Sweeting.
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I will pack and send either by mail or Express at one dollar per hundred, orders post paid.

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N. B. In all cases where it is possible, I will send specimens of the Northern Spy apple. JAMES H. WATTS.

Rochester, Feb. 1—2t.

Great Sale of Dairy Stock.

THE subscriber will offer for sale, without reserve, at Public Auction, on TUESDAY the *25th day of March*, 1851, at 12 o'clock, on the farm on which he resides, at Morrisania, Westchester county, New-York, upwards of

100 Head of Cows and Heifers.

About 50 head of them are Native and Amsterdam Dutch Cows, selected by the subscriber with reference to milking qualities. The remainder, about 50 head, are grades—half, three-fourths, and seven-eighths blood Heifers, from 1 to 5 years old, bred by the subscriber, out of the very best Cows, and got by the celebrated imported short-horned Bull "Marius;" and so far as they have come to maturity, they appear to combine, with most faultless symmetry, nearly every point indicative of perfection in a Dairy Cow.

Taking the whole dairy together, it is perhaps the best selected in the United States. The Cows, with a few exceptions, are all young, and in calf by the fine Bull "Amsterdam."

The many premiums I have been awarded, by the State Agricultural Society and by the American Institute, give evidence of success as a breeder.

I will also sell my short-horned Cow, that took the first premium at the American Institute Fair, in October last.

Two 2-year old Heifers and one yearling, all thorough bred.

Two yoke of very superior WORKING CATTLE, with several fine HORSES.

One BOAR, of the Russian grass breed.

One imported improved (white) Berkshire SOW and PIGS.

One Suffolk SOW and PIGS.

The number of hogs in all, will be from 50 to 60, and some of them are as fine as can be produced.

All the Farming and Dairy utensils, which are numerous.

☞ A Catalogue and description of each animal, will be given on the day of sale. Stock purchased to be sent to a distance, will be delivered by the subscriber on ship-board or railroad cars, in the city of New-York, free of risk and expense to the purchaser.

Morrisania is nine miles from New-York by Harlem Railroad.

Jan. 1, 1851—3ms.* THOS. BELL.

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Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.

Guano, *BonesDust*, *Poudrette*, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

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THE subscribers are receiving and have on hand a choice lot of Field Seeds, composed in part of

Black Sea Spring Wheat, both red and white chaff.
Italian and Hedge row Spring Wheat.
Spring Rye and Barley.
Broom Corn Seed, superior quality.
Clover, large, small and white Dutch.
Red Top, northern and southern.
Timothy and Orchard Grass.
Field and Garden Peas.

Also a choice assortment of fresh GARDEN SEEDS, warranted true to their name. The attention of Gardeners is particularly called to the assortment. All the above, with a full assortment of FARM and GARDEN IMPLEMENTS, are afforded on liberal terms at wholesale or retail, at the *Albany Agricultural Warehouse and Seed Store*, 369 and 371 Broadway, Albany, N. Y.

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Mar. 1, 1851.

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The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarcely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by

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March 1—3t.

NEW POTATOES.

THE "Prussian Seedling," four years from the seed ball, direct from Prussia, Germany. Large, round, light orange white, productive, hardy, in quality extra, very handsome, *the best early fall potatoe* in the world. Also my Buffalo Seedling Pink eyes, "Mammoth Seedling" and "Early Junes." The Early Junes are decidedly the best potatoe known for early marketing. Carefully packed and delivered at the depot, $4 per bbl. Also superior Seedling Potato Seed, by mail, with directions for cultivation, including postage, $1 per packet.

N. S. SMITH.

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BRED from the very best late importations, viz. Cochin China, Shanghae, English Dorking, China Dorking, Plymouth Rock, Jersey Blue, Yellow Short-legged Malay, Black Spanish, Black Poland, White Poland, African Bantam, Golden Pheasant, Imperial Chinese, and the great Burrampooter Fowls; also, Muscovy, Black and White Poland Ducks crested, and fancy Pigeons. Prices will vary with the different breeds and specimens, at 50 per cent. discount from the first cost of the breeding stock. Eggs packed in saw-dust, little end down, will transport safely. All communications prepaid will receive prompt attention.

N. S. SMITH.

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Quincy Hall, over the Market, Boston.

THE Proprietors having recently enlarged their Warehouse, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL and HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortment to be found in the United States, which are offered at low prices.

Of PLOWS—we have the greatest variety of kinds and sizes.

Improved Sod Plows, for flat furrows—improved Scotch Plows, for lapped furrows—improved Stubble Plows, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton, and Rice Plows.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others. Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes. Horse Powers, Threshing Machines, thermometer Churns, Robbins' patent Centrifugal Churn, Cylinder Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

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A. B. ALLEN & CO., 180 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

Seeds.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a year.

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189 and 191 Water street, New York.

March 1—tf.

Fruit Trees of Select Varieties,

For sale at the Nursery of J. J. Thomas, *Macedon, Wayne co. N. Y.*

50,000 APPLE, Pear, Peach, Cherry, Plum and Apricot Trees nearly all of large size, and *all propagated from bearing or proved trees*, including mainly the best standard sorts, with such *new varieties* as have proved decidedly excellent—all furnished at moderate prices, and carefully packed for canal or railway conveyance. Communications, post paid, to be directed to

J. J. THOMAS, Macedon, Wayne co., N. Y.

☞ The proprietor wishing to alter a part of his grounds, now occupied with a fine growth of several thousand apple trees, will furnish a good selection of best sorts, of full size, at prices varying with quality, size, &c., from *ten to fifteen dollars per hundred*, with only actual cost of packing added.

Mar. 1—2t.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
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March 1—tf.

THE CULTIVATOR

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

New Series. ALBANY, APRIL, 1851. Vol. VIII.—No. 4.

Practical Husbandry.

Farming in Otsego County.

In the month of February last, we made an excursion through a portion of Otsego county. This district is comparatively new as to agriculture. Until after the Revolutionary war, it was only a hunting ground for the Indians, and its settlement has been chiefly commenced within the present century. Many of the first settlers manifested a strong interest in the improvement of agriculture, and to their influence is to be attributed, in a considerable degree, the rapid advance which has been made, and the favorable position which the section sustains in this respect.

We learn from a "History of Agricultural Societies," published by the late Elkanah Watson, Esq., in 1820, that a society was organized in this county as early as 1817; and this, indeed, appears to have been the first county agricultural society in the state. Mr. Watson, who was present, and delivered an address on that occasion, spoke of Otsego as having "long stood pre-eminent in this state for its cattle and cheese." In the same address, Mr. Watson alluded to the favorable results which this new organization was destined to produce over the whole country. He said—"A strong presentiment lies on my mind, that the time is at hand, when, either through the national or state patronage, every county in this state—I will add, in the United States—will follow your example." The great increase of agricultural societies since that day, has singularly verified this prediction.

The second exhibition of the Otsego County Society, was held at Cooperstown, in 1818. Mr. Watson was iagan present, accompanied by De Witt Clinton, then governor of the state, the late Hon. Stephen Van Rensselaer, and several other distinguished gentlemen. The stimulus resulting from these visits, was productive of highly beneficial effects, which have been continued even to the present time.

Our observations, which were confined principally to the southwesterly portion of the county, could not, from the nature of the season, be of a very definite character, in reference to the cultivation of the soil. The general aspect of the country, its divisions into fields and woodlands; the external appearance of the farms, as to buildings, fences, &c., and the character of the live-stock, comprised about all that could be seen to advantage. This neighborhood has for several years been noted for its fine cattle and sheep, of various breeds; and we were informed by many persons, that agriculture, in all departments, has been greatly improved here within the last twenty years. But the raising of horses, cattle and sheep, and the products of the dairy, are still, as formerly, the chief staples. Wheat is produced to but a limited extent; Indian corn, oats, barley, and buckwheat, in considerable quantities; the yield of the latter grains being, probably, equal to the average of the state.

Besides the County Agricultural Society, which is located at Cooperstown, there has been for fifteen years, a society which has held annual exhibitions, generally at the village of Louisville, in the township of Butternuts, (now Morris.) Several hundred dollars are annually subscribed in this vicinity, including the neighboring township of Otego, which are paid in premiums on domestic animals, crops, dairy products, and manufactures. The society, though sustained entirely by individual aid, (receiving no funds from the state, as do county societies,) has kept up its exhibitions with much spirit, and with decided advantage to the farming interest.

From the acquaintance which our visit enabled us to form with the farmers of this section, we were favorably impressed with their intelligence and their desire for improvement. Many of them manifest an acquaintance with the principles of agriculture, and a determination to avail themselves of all practical information on the subject, through the medium of books, agricultural periodicals, and all other sources. They have lately organised a club for the discussion of questions connected with husbandry—the members meeting weekly for that purpose.

Much of the improvement of the live-stock of this neighborhood, is doubtless attributable to the exertions of a few individuals, who have devoted themselves considerably to that branch of farming. Prominent among these individuals, is Francis Rotch, Esq., a gentleman who has resided here for the last twenty-three years. On his first coming into this part of the country, he spared neither pains nor expense in procuring and introducing the best Short-horn cattle, South Down and Merino sheep, &c. He has also been instrumental in introducing the Devon breed of cattle, several specimens of which he imported from England; and has introduced, at various times, improved breeds of swine, poultry, &c. The opportunity of acquiring this stock has always been offered to the public on liberal terms; and the result has been an improvement which is too obvious to be doubted.

But the benefit of Mr. R.'s example and exertions has not been confined to the improvement of domestic animals. He purchased a farm which was considered utterly worn out. This he has completely renovated, and by means, chiefly, which have been adopted by others in the vicinity, with great advantage. The soil of the farm, as well as of the section generally, is derived from the decomposition of a silicious slate. Large quantities of leached ashes had accumulated from potash manufactories in the neighborhood,—their value as a fertilizer being so little regarded, that they were not deemed worth carrying away. Mr. R. commenced using ashes on his farm extensively, and with striking benefits from the outset. In the course of a few years, he applied no less than two thousand loads, of twenty-five bushels to the load—those of the first year having been obtained gratis, the second at twelve and a half cents a load, and the last at seventy-five cents a load—the latter being the price at which they now remain, and are so much sought after, that they are carted, in many instances, six or seven miles—the farmer being satisfied that even at this cost, they are applied with profit. By the aid of ashes, with strict economy in the saving and application of the manures of the farm, Mr. R. has brought his land to a highly productive state. It is chiefly devoted to grass, and produces an average of two and a half tons of hay to the acre. For several years, he has not found it necessary to purchase manures,—those made on the premises being sufficient to maintain the fertility of the farm.

Mr. R. has now relinquished the management of the home farm and the stock, to his son, Mr. F. M. Rotch. His Short-horns were in fine condition, and many of them are among the very best specimens of the breed. His South-Down sheep, about sixty in number, denote high breeding, and in uniformity and general symmetry, they are seldom equalled. The flock has, in fact, constituted the source from which many animals have been drawn for the improvement of other flocks of this breed. He has a small flock of the French Merinos, several of which were imported. They are of very large size, and quite even in the character of their wool, of which they bear a very large quantity.

We must not omit to mention Mr. R.'s Dorking fowls, of which he has a very choice stock, derived from Messrs. Baker of London, and other celebrated English *fanciers*. He has, also, a curious variety of rabbits, said to have been originally procured from Madagascar, but much improved in beauty and other qualities in England. In relation to these, he has obligingly furnished us with some remarks, which will be found on another page.

Devon cattle, as before remarked, have been bred in this vicinity, more or less, for several years. Those who have attended our State Fairs, will recollect the fine animals of this breed which Otsego has turned out, a good proportion of which generally stand high up in the list of successful competitors for premiums. Among the breeders of this stock, Mr. R. H. Van Rensselaer deserves particular mention. He has some of the finest Devons in the country. A part of his herd was derived from the importation of Mr. Rotch, before mentioned. To these he added, in 1849, the noted bull "Major," purchased of Mr. Gapper, of Canada, (see Cultivator for 1850, pp. 80, 81,) and during the past season has imported two very superior heifers, from the celebrated herd of Mr. George Turner, near Exeter, England. One of these heifers, which is three years old this spring, has produced a fine heifer calf—the sire, Mr. Turner's bull which received the first prize of the Royal Agricultural Society, in the Devon class, at the show of 1850. The other heifer is two years old this spring, and has not yet bred. Though both are fine, we consider the younger, one of the most perfect animals we have ever seen. With such stock as Mr. V. R. has now in his possession, he can hardly fail to breed Devons that will be creditable to himself, and greatly beneficial to the country.

Mr. V. R. has one of the best arranged poultry-yards we have seen, (of which we hope to receive a description)—well stocked with Dorkings of Mr. Rotch's stock, with a handsome assortment of the Polish or Top-knot fowls, turkeys, &c. He has, also, a rabbitry, in which he breeds the variety of rabbits introduced by Mr. R.

Mr. H. N. Washbon has been for several years known as a successful prize-taker for Devons. He has sold many, which have been taken to various parts of the country. Much of his breeding stock was obtained from Mr. George Patterson, of Baltimore, well known as a breeder of fine Devons. Mr. W. has several choice animals of this stock, though from being rather short of keep, some of them are not in condition, to appear to the best advantage.

Mr. James Blackman has several good full blood Devons, some of which are of the Patterson stock. Mr. Baker, near New-Berlin, Chenango county, has quite a large herd, among which are some very good Devons. Other farmers do not confine themselves to full bloods of any breed, but keep Short-horns and Devons, and various grades of these with the common stock—frequently producing, however, very good animals, especially oxen, for which the neighborhood sustains a well-deserved reputation. Among these may be mentioned Mr. R. H. Franchot, Mr. Morris, (son of the late Gen. M.,) Mr. Gillet, Messrs. N. B. and F. A. Pearsall, and Messrs. Peter, James, L. S., David, and Stephen Bundy. Messrs. B. constitute a *part* of what is called the "Bundy neighborhood," in Otego—a neighborhood which has long been noted for good farming, and fine working oxen. Messrs. B. have now several yoke which amply sustain their credit in this respect, and which in regard to beauty, strength, discipline, and all the qualities which constitute value in a working ox, are equal to any we have ever seen. The condition of many of the farms here, is somewhat rough and stony, and the labor on them is performed in a great degree by oxen. The best farmers are very particular in the breeding and training of this kind of stock, preferring those which, united to good constitution and substance, have a quick sprightly walk. The result is, that even at the plow, many of these oxen are not inferior in speed to the best horses, and their owners assured us that they were willing to risk any fair competition in this business, for a day or a week, or any longer time.

These oxen are generally of mixed blood, though all partake more or less of the Devon; most of them are half; occasionally some are more. The cows which produce them are frequently mixed with Short-horn blood; but some of the best we saw, were produced by cows which had a dash of the Bakewell Long-horn, derived from some animals of this breed which were imported several years since by the late Mr. Adcock, of Gilbertsville. We did not learn that any full blood Devons had yet been tried for work in this section—the demand for males rendering them too valuable for this purpose. Whether the Devons unmixed, will have sufficient weight for the most valuable oxen, remains, therefore, to be proved. It is proper to remark, however, that their size has latterly been much increased in England, and we can discover no reason why, with proper attention in selecting, breeding, and rearing, the requisite size may not be attained here, and that, too, without any sacrifice of the other valuable qualities of the breed.

Mr. David Bundy has a flock of about sixty long-wooled sheep. They are descended from the Leicesters imported by the same Mr. Adcock who imported the Bakewell cattle. They appear to be a valuable stock, and many of Mr. B.'s are prime sheep.

Dairying.—Otsego county produces large quantities of butter and cheese. We had not the opportunity of visiting many of the farms devoted specially to dairying, but obtained some facts in reference to a few.

Mr. Peter Bundy, Otego, states that he kept ten cows in 1850—three of them were two-year-old heifers. They "came in" as follows: 1st and 2nd, March 25th; 3d, April 10th; 4th, April 14th; 5th and 6th, April 19th; 7th, May 11th; 8th, May 12th; 9th and 10th, May 19th. The whole amount of butter made, was 1720 lbs. Made cheese 19 days—462 lbs.—weighed from the press. Mr. B. says, "Allowing three two-year-old heifers equal to two cows, the dairy would stand at nine cows—allow 2½ lbs. of cheese equal to one pound of butter, and the account will stand at 211 lbs. 10 oz. per cow, besides a liberal use of milk and cream in a family of seven persons."

Mr. Rensselaer Day, Otego, states that he kept eleven cows in 1850, the income of which was as follows:

Sold 1639 lbs. butter for,........................	$249 81
Made 325 lbs. cheese, worth 7c.,..................	22 75
Sold four calves in August for,...................	31 00
Raised three calves, for which he was offered, in December,........................	36 00
Total,............	$339 61

Equal to $30.87 per cow.

Mr. Walter L. Moore, Butternuts, keeps usually from seventeen to twenty cows, the milk of which is used chiefly for cheese, but butter is made in the fall. The average weight of cheese to each cow, for the season, (making the customary allowance of one pound of butter being equal to two and a-half pounds of cheese,) is 400 lbs. It is of superior quality, and a large portion of it is sold at the close of the season at nine cents per pound. Some two-year-old cheese from this dairy, which we tasted, was scarcely inferior to the best we find anywhere.

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"Industry and economy will get rich, while sagacity and intrigue are laying their plans."

Memoir of Colonel Timothy Pickering.

(*Concluded from p. 102.*)

It is of Col. Pickering *as a farmer*, that we feel it to be our privilege to speak. This we should not have done, had not our solicitations to others, better qualified to say what ought to be said, been ineffectual.

In 1818, an association of the farmers of Essex was formed, under the name of the "Essex County Agricultural society," over which he was invited to preside. It was done in accordance with the offer of the state for the encouragement of such societies. There is good reason to believe that Col. P. was not ignorant of the movement that prompted these offers. Whatever may have been the origin, it met his entire approbation and active co-operation. He continued thus to preside for a period of *ten years*, until the autumn of 1828, when, he said he felt it to be his duty to withdraw, lest he should be thought to be *in his dotage*—an idea that never occurred to any one but himself. We know not how to express our opinion of the efforts of Col. Pickering, in connection with this society, better than in the language of the address, in 1844. Says the speaker—"I have ever esteemed the hints and observations that fell from Col. Pickering at our meetings, as among the most valuable lessons ever taught to the farmers of Essex. At an age when most men think their labors should be ended, he was in his prime, in handling the plow and instituting new experiments. He was not ashamed to soil his hands or his clothes, in the labors of the field. In whatever he engaged, he took the part of the working man. When he spoke, it was not to display his own acquirements, but to instruct his hearers. While others were admiring his superior wisdom, he, himself, appeared to be the only one not conscious of it. Like Franklin, he always had some illustrations that would not fail to make a lasting impression."

During his presidency, (as it was our privilege to be his secretary,) we can bear testimony that he was scrupulously attentive to all the meetings and interests of the trustees, and of the society; always ready to illustrate by precept and example, his accumulated experience. He loved farming for its own sake, and for the good of his fellow men. He was never happier than when he commanded the listening attention of a group of practical farmers, catching the words of wisdom from his lips,—spoken, as it were, from the inspiration of the genius of sound philosophy. We recollect many instances, when, upon questions incidentally arising, he would go on and talk "like a book," for fifteen or twenty minutes, to the admiration of all around. He had read most that was then valuable of English, Scotch, and Flemish husbandry; his memory was uncommonly retentive; and what was of most value, he thought closely and carefully, upon what he saw and read. He was never satisfied to take any man's *say so*, unless he could be made to understand the reason for saying it.

It may be interesting to notice some of the topics, on which he was accustomed to dwell with special emphasis, connected with the advancement of husbandry in New England. Among these, the improvement of our native breed of neat cattle is entitled to the first place. "I have long entertained," said he, "and repeatedly expressed the opinion, that a fine breed of cattle, peculiarly adapted to the combined objects of the farmers of New England, might be most readily and extensively obtained, by the spirited exertions of substantial farmers to improve our native breed." In support of this opinion, he quoted the late Mr. Lowell of Roxbury, one of the most intelligent farmers in Massachusetts, who said, "Possessing as we unquestionably do, the materials among our own stock, of improving our breeds, by careful selection, we should follow the example of Bakewell and other British farmers, who in fifty years, have raised the stock of Great Britain to a state of perfection little short of what it is supposed they can ever reach." And again, "more is to be expected from the excited attention to the improvement of our own stock, than from importation." Col. Pickering further remarks, with a liberality of opinion, characteristic of himself, "Such improvements of our native cattle, so important to our farmers in general, will also be interesting to those who are possessed of fine imported cattle; for if the latter on full trial, shall be found to be really of greatly superior excellence, improved individuals of our native breed will furnish better subjects for coupling with them; and enable the owners of the imported animals more expeditiously to improve and increase a superior stock,—whether for their own use, or for sale."

A highly interesting disscussion on this subject, was carried on between Col. Powell, of Philadelphia, and Col. Pickering, (see N. E. Farmer for year 1825) in which Col. Powell admits, that the short-horns, so called, are too large for the ordinary purposes of our farms. To whom, Col. Pickering replies, "We now have, in what are denominated our native cattle, a breed exactly adapted to our service, and means of keeping them; and may we not, with spirit and resolution, engage at once, in the laudable and profitable enterprise, of improving this breed, by a careful selection of the best males and females, and thus, in a few generations, raise them, not to gigantic size, but to a high pitch of perfection, for the primary objects of our farmers,—*labor, beef, and rich milk for butter and cheese.*"

The constituents of soils, and the manures applicable to their improvement, were also, with him, favorite themes for discussion. His remarks were practical, not theoretical. He would go on, with great minuteness, stating all the facts and circumstances connected with any experiment, explaining as he went, but never was in haste to draw general conclusions—fully impressed with the truth of the proverb—"one swallow does not make it summer."

The implements of husbandry, too, shared a portion of his attention. From the noble plow, that is at the foundation of all culture, to the simple brush[*] for the destruction of the meanest insect—none were too large to be above his comprehension; none too small to be beneath his notice. Scarcely a subject can be mentioned, connected with the culture of the soil, that has not been noticed by him. Without presuming to be a writer and maker of books,—he was always thinking—always communicating his thoughts in such a manner as to be useful. In so doing, he seemed to forget himself, and to be moved by a desire to do good. His life was a practical illustration of disinterested benevolence. We remember to have heard from him, addresses to the Essex Society in 1818, 1820, and 1828,[*] and to the Massachusetts Society in 1823, all of which were published among the Transactions of those years.

There is scarcely a page of the publications of the Essex Society, during his presidency, that is not illuminated by his reflections. If this society has gained any reputation, or been instrumental of any good, it is mainly to be attributed to the impulse he gave it, and to the spirit of inquiry awakened by his advice and exertions. To attempt to condense his remarks, would be but to mar their symmetry, and impair their force. His discriminating observation and comprehensive reflection, left nothing to be added; his classic discipline and fine taste, admit of no retrenchment. We cannot so well express what is proper to be said of his productions, as in the following condensed paragraph of Mr. Fessenden, the learned editor of the N. E. Farmer, when speaking of the address to the Mass. Soc., vol. 1, p. 222. "Although the subjects of the address are not only important, but many of them abstruse, forming what may be styled the metaphysics of chemistry and physiology; still there appears to be nothing in Mr. Pickering's observations, which is hard to be understood. Volumes after volumes have been written on the food of plants; the elements, or chemical constituents of vegetables; the mode of operation, the manner of applying, and the benefits resulting from the application of lime; the different kinds of earth necessary to constitute fertile soils; the burning of clay for manure; the obstacles which prejudice, and a pertinacious adherence to old usages, oppose to improvements in agriculture; and the best means of overcoming such obstacles; the best methods of accumulating and applying manure, &c., &c.—but we do not remember ever to have seen so many and so important topics comprehended in even more than double the pages containing Mr. Pickering's remarks on those subjects. We never read a paper, which, in our opinion, exhibits so much *useful matter* in so *short a compass.*" "We think it should be a subject of congratulation with every friend to his country, that an eminent statesman, and revolutionary patriot, should be induced to exert his influence, and devote his talents to promote the interests of agriculture, the most noble of the sciences, as well as the most useful of the arts." If further testimony is demanded, let the pages themselves be consulted; and whoso shall fail to be convinced, will thereby demonstrate his inability to comprehend.

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[*] Col. Pickering's brush for Caterpillars. See his Letter in N. E. Farmer, April 26, 1823, vol. 1, p. 308.

"This brush is made of hog's bristles, introduced between two stiff wires, closely twisted; and being convenient in cleaning the inside of bottles, is probably familiarly known wherever liquors are bottled. For the information of others, I will mention that a piece of wire full one-tenth of an inch in diameter, about three feet long, doubled, and leaving a small loop in the middle, is closely twisted for the length of eight or ten inches from the loop; and then the bristles, being introduced between the remainder of the branches of the wire, and these closely twisted upon them, the bristles are immovably fixed, and thus form a cylindrical brush, about six inches long and two and a half in diameter. To fasten this conveniently to a pole, with a small gouge I made a groove about seven or eight inches long, at the small end of the pole, in which nearly all the handle of the brush was laid, and bound firmly on with three strings."

[*] In Sept. 1828, Col. Pickering met the trustees of the Essex Society for the last time. This was shortly after the death of his beloved companion, with whom he had lived for sixty years.

If we rightly remember, as early as 1790–5, was the attention of Jefferson and Pickering directed to the formation of the mould-board of the plow, on scientific principles. They thought much and compared their views. Which originated most improvement we will not presume to say. Their object was not so much to secure patents, as to secure improvements. The result was the publication of a new form of structure, with an explanation of the principle of operation. In 1803, Mr. Smith of Pennsylvania, substituted the *cast-iron* for the *wooden mould-board*. Since then a very great variety of modifications and combinations, (too numerous to mention,) some founded on *principles tangible*, and others on *principles imaginary*, have been brought forward. But if we do not mistake, nearly all that is valuable in these improvements, was embraced in the contemplations of these original minds. By so doing, they literally converted the weapons they had so successfully wielded, into plowshares—benefitting the world more than any victories at arms.

Col. Pickering's mind was so disciplined to accuracy of thought and logical conclusions, that he could not endure with patience, the ill-founded notions and whims, that frequently have a pervading influence on many minds in the community. Illustrative of this, we remember an incident that occurred at one of the meetings of the board of trustees, over which he presided. One of the members of the board, a practical farmer, possessed of more *acres* than *ideas*, had been discoursing, with more ardor than discretion, *upon the proper age of the moon, in which bushes should be mown, that they might not sprout again*; and had specified a certain day of the *first* or *last* quarter, (we do not remember which,) in the month of August, *provided* the moon should be in the right sign, with her horns in right position, &c., &c. The speaker having triumphantly put forth his theory, confirmed by observations for a time the memory of man runneth not to the contrary, calmly waited for others to say amen! "My friends," says the Colonel, "I hope never again to hear from you, or any other member of this board anything, whatever, of the influence of the moon, upon any of the operations in agriculture. I should as soon think of calling in the aid of '*the Man in the Moon*,' to assist in the labors of the field—be they chopping, plowing, sowing, mowing, hoeing, harvesting, or whatever they may be,—as to expect any favorable or unfavorable influences, from the *age* or *position of the moon*. Let me tell you, *that old man*, pictured in the Farmer's Almanac, surrounded with the twelve signs, and as many jaw cracking names, and pierced by as many arrows, has done more harm than all the meteorological prognostications of the most weather-wise calculators, have ever done good. I want such rules only, for labor, in the operations on the farm, as are supported by reason, and are in harmony with common sense." It is unnecessary to say that the gentleman's argument was never again urged in the presence of the president.

He was remarkable for regular and temperate habits—no man more so. This, not in conformity with the fashion or custom of the day—but because of his thorough belief in the utility of such habits. We remember to have heard him say, that he had taken medicine but once, for more than *forty years*. This, he said, was on the day preceding the battle at Yorktown (we think,) when having been much exposed in attending to the duties of his department, he was severely attacked with a feverish affection. A seasonable prescription from an intelligent Scotch physician afforded relief. Ordinarily, abstinence was his regulator of bodily infirmities. Nevertheless, his good sense taught him, that there are exceptions to all general rules;—and therefore he consented to be advised, when he could not do without the advise. "Whenever," said he, "I find my system in the least disordered, I refrain from crowding the stomach, make such external applications to the skin, as tend to correct the inconvenience. In this way, have I kept my system free of all poisonous annoyances." *Abstinence* from everything prejudicial, either to mind or body, was with him a cardinal virtue. On this principle he avoided the *use of tobacco*, and discouraged its use in others.

In the domestic relations of life, were the qualities of his nature most fully developed. Blessed with a companion entirely worthy of him,—chosen in youth, when heart unites with heart by ties irrevocable,—and with eight sons and two charming twin daughters, his home was ever the abode of the best affections. Stern as he might be, in the rougher paths of the world, when mingling with his family, he was gentle and conciliatory almost to a fault. No man loved his family better,—no man ever found his love more cordially reciprocated.

Col. Pickering was truly a religious man. At all times he seemed to be fully impressed with that most salutary of admonitions—"Thou God seest me." His religion was of that class that moves the *inner man*—and not that which exhausts itself in vain professions. He was strictly exemplary in his observance of all the customs and ordinances of the class of christians with whom it was his happiness to associate; scrupulously careful of avoiding offence to those who conscientiously entertained different views; confident and fully persuaded in his own belief, and ever ready to give a reason for the faith that was in him; still charitable enough to view with favor, all, of whatever name or sect they might be, who honestly and intelligently believed, and lived accordingly. He never pretended to have any religion *to speak of*. Nevertheless, none could have witnessed his venerable form in the church, (where he constantly attended,) at the table of the Lord, without being fully impressed with the text, "Behold an Israelite indeed, in whom there is no guile."

It may be interesting to those who never saw Col. P. to be informed of his personal appearance. This was peculiarly striking. It brought to mind distinctly the notion formed of the old Roman character. In this he was not unlike Gen. Jackson, for whom he entertained a high respect. He was tall, (six feet at least,) athletic, erect, square shouldered, full in the breast, muscular, and his entire movement marked the perfect man. But above all, his high forehead and prominent brow, with the piercing eye beneath, and the general expression of intelligence about the head, never failed to leave a conviction on the mind, of his intellectual superiority.

This was frequently noticed in his intercourse with the

Indians, at Buffalo and other places in the west, where he was frequently called as Commissioner, to negotiate treaties and adjust difficulties. These rude sons of the forest are not slow in discriminating the traits of character of those with whom they come in contact; and if tradition is to be credited, his influence with them was almost without limit. He had studied human nature in the original—and knew full well how to fit the words to the occasion.

In whatever company he might be, he would not long pass unnoticed. Although there was a sternness in his aspect and manner, still he was entirely free from assumption of superiority—especially when in company with the young, or those who had merit enough in themselves rightly to appreciate his character. But we shall never forget the contemptuous frown with which he looked upon conceited coxcombs, and superficial upstarts. Shuffling and meanness of any kind, were never favored by him. His own honor would not allow him to wink at anything dishonorable. The Rev. Mr. Uplam said of him, in a discourse, the Sabbath after his decease—"The feelings of pride, jealousy and suspicion, seem never to have entered his heart. He looked not on the most humble as his inferiors; and never abased himself by flattering the most exalted."

One of the last occasions on which Col. Pickering appeared before the public, was the 4th of July, 1828, at the celebration in Salem; when he took occasion to preface the reading of the Declaration of Independance, with a statement of facts, within his own knowledge, relating to this document, of much interest. We can only say, that he aimed to do full justice to those co-patriots, in the times that "tried men's souls"—Adams and Jefferson—with whom he had been supposed to be in some measure at variance—politically speaking at least,—and with the former, not without cause—thereby showing to the world that he was incapable of cherishing feelings of enmity.

Some have charged him with being under the influence of *strong prejudices*; but those who knew him best, know that he was neither obstinate nor prejudiced. He was a man who thought for himself, and adhered with firmness to opinions deliberately formed. But still he was open to conviction, and ever ready to yield as soon as convinced. But so logical were his thoughts, and so deliberate his conclusions, that he seldom had occasion to yield. Therefore superficial observers called him obstinate.

In April, 1775, when the sons of liberty were first called to arms, at Salem, Col Pickering was found ready to go ahead as their file-leader. It is not a little remarkable that in April, 1828, forty-three years afterwards, when the friends of freedom were again summoned, with their contributions in behalf of the oppressed Greeks, he should be found to occupy the same conspicuous position. The address, then prepared by him, after a most graphic description of the truly pitiable condition of their sufferings; and of the noble exertions of those genuine philanthrophists, who had perilled their lives and fortunes for their relief, closes with these remarkable words, worthy of their own Demosthenes:

"But the misery of the Grecian women and children, and of men enfeebled by age remains. Their relief is the object of this statement. Eloquence is not necessary to persuade. The facts speak to the heart, and it is confidently believed that they will not speak in vain." Imagine the venerable old man, with his intense look, and energetic movement, uttering these words, and even the walls of the temple would echo, Amen.

It must be particularly gratifying to every friend of improvement in agriculture to know, as it is in my power to assure them, that the last public act of Col. P., and the last use to which his pen was employed, was the preparation of a memorial to the Legislature of Massachusetts, for the renewal of the bounty of the State for the encouragement of Agriculture. Thus he lived and thus he died, having passed more than sixty years in the exercise of the highest philanthrophy.

His memory should be held in honor by all who depend upon the fruits of the earth for their sustenance and support. He who had served his country with fidelity and ability, in the field and in the cabinet, retired to his farm, as did his Roman prototype, in the midst of life, before his eye was dim or his strength impaired, and devoted his matured energies to the cultivation of the soil. When such minds can thus find full employment, who will dare say that agriculture is an humiliating pursuit? John W. Proctor.

Progress of Agriculture.

Theories of Agriculture---No. 4.

Considerable advance has of late been made in the *philosophy* of agriculture. Until within a few years, the practice of husbandry may be said to have rested entirely on empirical rules. The subject has now been greatly illustrated by scientific investigation. In vegetable physiology, we have been much aided by chemistry, by which the functions of plants and many of the phenomena connected with their growth and decay have been explained. Analysis has shown the composition of plants and soils—it has shown that each species of plant has its specific food—that the elements which support plants are not uniform in the soil, but that each variety of soil varies in this respect. Thus we discover the principles from which are deduced the necessity of the application of manures, and the expediency of a rotation of crops.

But it is not alone by explaining acknowledged facts, that chemistry has thrown light upon agriculture; it has solved questions, by which practice has been, in some instances, corrected. We are aware that too much has been claimed for chemistry—that some of its enthusiastic advocates have assumed much which would not stand the test of experience, and which is equally at variance with correct science; but this is a result naturally incident to all investigations in their first stages, or until their fundamental priniciples are thoroughly established.

On the other hand, an unreasonable extreme has been run into by the opponents of the application of chemistry to agriculture. For example, an editor of a paper whose leading subject is agriculture, declares that "for a farmer to consult a chemist to aid him in his field, is more absurd than for a smith to look to the wind to know when to temper his tools."* The same editor informs us that nine years have elapsed since he first "invited the public to patronize a paper of a character wholly different from any that had been published since the art of printing was discovered," and that he has "labored hard to please and to instruct." As specimens of these labors to "instruct" farmers, we may take the above remarks, and also his assertion put forth through the same medium, that the *shape* of the plow has undergone no improvement for the last thirty years—that "the only gain in draft is owing to the smooth and hard surface of the plow—land-side and furrow-side; for plows turn the ground over no better now than they did thirty years ago."

Now it seems to us that every farmer whose vision is not blinded by prejudice or ignorance, may have discovered various instances in which chemistry has been of practical utility to agriculture—that it has developed valuable truths which never could have been elicited by practical observation alone. Without the aid of chemistry, it could not have been discovered that phosphate of lime formed one of the constituents of bones, of milk, and the cereal grains. Milch cows when confined to pastures which have long been devoted this description of stock, are liable to a weakness of their frames called the "bone-disease," and their milk is sometimes destitute of a quality essential in the manufacture of cheese. Chemistry has ascertained the cause of those defects, and pointed out a remedy; it has shown that the soil becomes exhausted of its phosphate of lime, so that the herbage does not afford the animals the requisite supply of this important element; and as the same science had shown that bones were composed chiefly of the substance wanting, it only became necessary to apply bones as manure, to remedy the defect of the soil and heal the malady of the animals.

Chemistry has been of practical utility by showing in what consists the fertility of soils, what constitutes the fertilising nature of manures, and what is the specific action of various substances. In this way it has been the means of correcting erroneous practice in compounding manures. Formerly, farmers, without any knowledge of chemistry, were in the habit of mixing all kinds of manure in a compost, without regard to their action when thus combined—apparently on the principle that "too many good things cannot be put together." Lime was often mixed with animal manures, and as chemistry has shown, to the loss of one of the most valuable properties—ammonia. Hence, those who understand the action of lime, have discountenanced its use in manures. Thus, Prof. JOHNSTON says guano should not be mixed with lime,—"because the lime sets free the ammonia contained in the guano, and causes it to escape into the air." He says, also, "quick-lime will in the same way drive off the ammonia contained in liquid manure, and in horse, or farm-yard dung." Another writer observes—

> "Lime is frequently misapplied by being added to farm-yard manure, animal remains, and other substances which are rich in ammonia. As it encourages the decomposition of the structure of animal and vegetable substances, it has been used for this purpose. This is, however, an erroneous practice, as it affects its object at the expense of the most valuable fertilising element, which it dissipates. But practice does not require the aid of lime in the conversion of the remains of animal bodies, of vegetable refuse, and many of the occasional waste substances which contain ammonia, into compost manure. They rot spontaneously with sufficient rapidity."*

The injurious effect of mixing lime with animal manure, may be explained as follows: Lime-stone contains nearly half its weight of carbonic acid. In the process of burning, the carbonic acid is driven off; but the lime has a constant tendency to return to its original condition, by the re-absorption of the property it had lost. Animal manure contains this property—carbonic acid—combined with ammonia. Thus, when lime and manure are mixed, the strong attraction which the lime has for the carbonic acid, causes the latter to separate from the ammonia, and unite with the lime, liberating the ammonia, and allowing in to pass into the air.

Chemistry has also shown that sulphate of lime, (gypsum,) has an opposite effect from common lime, when mixed with manures. The sulphuric acid of the gypsum unites with the ammonia, (which is an alkali,) and prevents its escape. Thus, where caustic lime would produce a loss of the most valuable property of manure, sulphate of lime would save it.

The observance of the principles which have been developed by chemistry, merely in relation to the action of lime and gypsum, as above noticed, might have saved to farmers thousands of dollars, which, for want of this knowledge, have been lost. In this connection it may be mentioned, also, that the science has been of great utility in ascertaining the intrinsic value of what may be called *commercial* manures—as guano, poudrette, &c. It is well known that great deception has been practiced in regard to these articles. Chemical analysis has shown their adulteration, and established their true value; thus enabling farmers to avoid imposition.

Again, chemistry has greatly illustrated and explained the advantages of draining land. True, it could be seen without a knowledge of chemistry, that crops grew better for having the surplus water turned away from their roots; but this science has shown that the presence of an undue quantity of water in the soil, causes the formation of noxious compounds. It prevents the decomposition of vegetable substances, in consequence of which acids are generated, sometimes with iron as a base, which are very pejudicial to plants—the soil becomes *sour*.

Chemistry has detected these acids, shown their nature, how they were formed, how their formation may be prevented, and how they may be destroyed. It shows that draining produces a chemical change in the soil; that the water being withdrawn, and the soil exposed to the action of the air, these injurious acids are dissipated, and the food of plants, which had before remained latent, becomes soluble and available. This is unquestionably one of the most beneficial results of drainage, and yet it is one which chemistry alone could explain.

FEEDING CATTLE.—Cattle standing in cold muddy yards, exposed to the weather, consume about twice as much as those in sheltered stables kept clean and littered, and free from the accumulations of manure.

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* *Massachusetts Plowman*, Oct. 5, 1850.

* Morton's Encyclopedia of Agriculture

Ashes of Anthracite and Bituminous Coal.

Analytical Laboratory, Yale College,
New-Haven, Conn., Feb. 25, 1851.

Messrs. Editors—During the past year, several of the students in this laboratory have, at my suggestion, been examining the ashes of our ordinary coals, with a view to the determination of their practical value for agricultural purposes. The analyses now completed are so accurate and so minute, that we are for the first time able to speak positively with regard to coal ashes, and to point out the differences which exist between them and other varieties of ashes. The researches of modern geology have shown that the beds from which at the present day we obtain the various forms of coal, consist chiefly of the remains of an ancient vegetation, which beyond all question, covered large portions of the earth's surface at some period in the earlier history of the planet. This vegetation must have been dense and luxuriant beyond anything that occurs at the present day. Some of the many convulsions and internal *throes* which have altered the position of rocks, upheaved hills and mountains, opened deep valleys, brought up dry land from the midst of the sea, and sunk whole continents beneath its surface again, have overwhelmed this vegetation, and heaped materials above it, which have gradually hardened into rock. Stratum after stratum has thus accumulated, new layers of vegetable growth have even been deposited above the first, by a subsequent growth and subsequent burial. The vegetable masses thus crushed under the superincumbent pressure of perhaps a thousand feet of rock, and exposed to heat at the same time, changed into what we now call coal. The product was either anthracite or bituminous coal, according to the different circumstances of formation, and the different degrees of heat to which the beds were exposed. In the immediate vein of the coal, all traces of vegetable structure are commonly lost, but in the roof of the mine are frequently to be found perfectly preserved stems and leaves, so perfect that the botanical character of the plant can be clearly decided. We are thus able to see, and to feel, on the surface and in the texture of solid rock brought sometimes from a depth of 1600 feet, the forms of that superb vegetation which clothed parts of our globe for centuries, or I may say long ages, before man became its inhabitant.

The formation of these vast vegetable deposits seems to have been one of the means by which our all wise Creator prepared the world for our comfort and sustenance; when we have exhausted in our improvidence the vegetable growth of the surface, we find buried deep beneath all of our present disturbing causes, the organic structures of preceding periods of time, stored away in a form exactly adapted to our uses and wants.

The quantity of coal now consumed annually in civilised countries, may be counted by millions of tons, and is increasing in proportion with the spread of manufacturing, and the extension and augmentation of commerce. If we take any single bushel, or even a single ton of this coal, and burn it, the proportion which remains unconsumed is altogether trifling in comparison with the original bulk, and may seem almost unworthy of note; but when we come to count our tons by the thousand and hundred thousand, this subject of coal ashes begins to expand; and when we consider in this view the immense aggregate quantity which every year must afford, we see that the disposal of them must be a matter of much importance. If the thousands of loads that are annually wasted, contain even a small per centage of substances valuable to our crops, the preservation of these ashes becomes a question of great public interest. That they must contain something, is rendered almost certain when we first ascertain the fact that coal is of vegetable origin; the next point is to inquire how much there is that may be of value to our crops at the present day. It is with the view of deciding this question, at least with regard to some of the principal varieties of coal used in this country, that the analyses herewith given have been made.

The coal was ignited in an ordinary furnace, and the fire, when well kindled, was allowed to burn for nearly a whole day, before any ash was saved; the grate was then well raked out, the ash pit carefully cleared and swept, and the ashes that fell after this were collected. These precautions were taken to obviate all danger of mingling some of the ashes from the wood or charcoal employed in lighting the fire.

The samples for analysis were taken each from several pecks of ashes, obtained in this way.

The investigations with regard to the anthracite ash, were made by Mr. J. B. Bunce of Hartford, Ct., and his results were the product of much careful labor, nearly all of the per centages being the mean of two closely concurring trials. He took fair samples of the ordinary white and red ash coals, and after burning in the way that I have described above, commenced his analyses. According to these, the following table shows the general composition of ash, from the common kinds of coal. That there is a variation in the ash yielded by coal from different veins, I am well aware, but still do not suppose that they are so marked as to materially injure the value of these analyses. I think that they probably approach quite nearly to a true representation of the character of anthracite ashes, and that they may be looked upon as very valuable for all practical purposes.

Each column of figures represents the constituents of 100 lbs. of ash.

	White Ash.	*Red Ash.*
Insoluble in acids,	88.68	85.65
Soluble silica,	.09	1.24
Alumina,	3.36	4.24
Iron,	4.03	5.83
Lime,	2.11	.16
Magnesia,	.19	2.01
Soda,	.22	.16
Potash,	.16	.11
Phosphoric acid,	.20	.27
Sulphuric acid,	.86	.43
Chlorine,	.09	.01
	99.99	100.11

These close and interesting analyses, afford us much light upon the constitution of coal ash, and enable the chemist who has studied these subjects, to say at once and with confidence that this ash is of some value as a manure, and should by all means be so applied in cases where it can be obtained cheaply.

Of the white ash 3.74 lbs. in 100 were soluble in water, and in the red ash 3.85. Besides this there was a farther and larger portion soluble in acids, amounting in the white ash to 7.58 lbs. in 100, and in the red ash to 8.00 lbs. This latter class of substances cannot be considered as immediately available for the plant; but they will nevertheless gradually decompose and become soluble in the soil, thus affording a constant supply for a long period.

On referring to the table, we see that the greater part of each ash is insoluble in acids; this part consists chiefly of silica, alumina, and iron, and thus the great bulk of these ashes is inactive as a fertilizer; the remainder as we shall find, is of more importance. It will be noticed that the quantity of lime and magnesia taken together, amounts in each case to about 2¼ per cent. A portion of this lime was in combination with sulphuric acid, forming the common gypsum or plaster of Paris. The potash and soda were doubtless chiefly combined with the phosphoric acid and with the trifling quantity of chlorine. The very considerable per centage of soluble silica in the red ash, is worthy of attention as a curious fact.

In looking at the nature of these results, we may draw the general conclusion, that in the ash of anthracite coal, calling these fair specimens, we have in every 100 lbs. from 4 to 8 lbs. of valuable inorganic material, of a nature suitable for adding to any soil requiring manures. This is the perfectly pure ash; as we ordinarily find it there is mixed a greater or less proportion of ash from the wood or charcoal, used in kindling the fires. There is without doubt enough of this, in all ordinary cases, to add considerably to the richness of the ashes. But even if we take them in their pure state, as represented by the above analyses, we can see that they are well worth collecting, and that when applied in considerable quantity they may be expected to produce a decided effect. Indeed I have reports already as to the experience of several practical men, who have used them with much advantage.

An analysis of the ash from bituminous coal has just been completed in this laboratory, by Mr. G. W. Weyman of Pittsburgh, Pa. I do not insert it here, as it is to make its first appearance elsewhere. I may state however, in general terms, that this ash has about the same proportion of soluble substances as the anthracite ashes, but is superior to them in the per centage of lime, and of potash and soda, which it contains. It is therefore also of some importance.

When we consider, according to the above analyses and statements, that in every ton of coal ash that is wasted, we throw away from 100 to 150 lbs. of valuable materials, more valuable by far than an equal bulk of our ordinary manures, we perceive plainly that the farmers have not understood their true interest in letting this waste go on.

These ashes can be applied with advantage as a top dressing on grass land, or as mixed in a compost; they would also be of service when thrown into tanks and hollows, to absorb liquid manures.

Having thus called attention to this subject, it is to be hoped that our farmers who are able to obtain quantities of coal ash, will experiment on a large scale, and add practical to theoretical proofs of its value. Yours truly,
John P. Norton.

DOMESTIC ECONOMY.

Treatment of Scarlet Fever.

The following communication comes from a gentleman, in whose judgment we have entire confidence:

Cleanse the stomach by a mild emetic. such as warm water or ipecac, (but not emetic tartar—it is too prostrating for this disease.)

When the fever rises, wash the patient all over in *warm* water, rendered a little slippery between the thumb and finger, by white ley or sal eratus. As frequent washings will be required,—that is, as often as the fever rises,—a *soft* towel should be used, and very gently, so as not to make the skin sore. On this account, when the skin is thoroughly cleansed, less ley should be used; and if the patient becomes sore, a little rich milk in the water, may be substituted. The feet should also be bathed in *warm* weak ley.

Such washings operate like a charm; and have never failed under my observations, to put out the fever as water puts out fire—for a time; but frequent repetitions will be necessary. A girl in my family, was washed ten times in one day; and a neighbor who was very weak before he came under my care, was washed twenty times in one night. The effect of these applications is most salutary and soothing. I have seen a child of five years old, who was taken from her bed crying and moaning, become playful as soon as she was washed. Another child, on whom the fever had risen high in the night,—was cooled off by the same process in a few minutes.

Warm water is more soothing and agreeable than *cold* water—which (latter) ought not to be applied in this disease, on account of its inducing re-action.

If the throat is much swelled, surround it with a cloth containing hops sprinkled with hot vinegar, and extending upwards above the nose, so that the patient may breathe the fumes. Volatile liniment,—made by turning *aqua ammonia* into sweet oil in a phial and shaking it well,—may also be applied round the throat, to irritate the skin as a rubefacient.

The *strength* of the patient should be most carefully preserved, hence neither *bleeding* nor *strong cathartics* are admissible. Some indeed, live through such improper treatment, because scarlet fever is one of the most variable diseases in regard to intensity: on some being very light, and on others very severe. The more urgent the case, the greater is the danger from bleeding. *The patient has not one drop of blood to spare*—no more than he would have in typhus; and strong purgatives are scarcely less improper. Only the mildest cathartics, like tamarinds, should be employed; but as elder-flower tea is both sudorific and aperient, in most cases no better medicine need be sought.*

After the fever has ceased, children often become pale and bloated; and a near neighbor lost a fine boy under the care of a regular physician, when the disease seemed over and past. In all cases however that have come to my knowledge, a dose of calomel when given, has roused them from that torpid state, and they have rapidly recovered.

Be very careful for many days after, not to take cold.

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* Decoctions of slippery elm, catnep, or sage, may be used where elder-flowers are not to be had.

Stewed Apples.

Some people think stewed apples more wholesome and better flavored than preserves, and I am one of the number, though much depends on the kind of apple. The *Fall Pippin* for instance, though so excellent, is inferior in this respect; neither is the *Spitzenburgh* nor the *Bellflower*, equal to some others, for none of the three, are quite clear of an unpleasant tang. We have found two sorts however, which are very superior, and I will name them.

The *Red Astracan*, as one, ought to be better known, and every freeholder ought to have a tree near his door. It is of strong growth, and bears every year. It is among our earliest apples, and begins to color, and may be used, when only half grown. It is remarkable for its pure flavor. Where this fruit can be had, I should think the *Yellow Harvest* which ripens about the same time would not be stewed.

The *Belmont* is another very superior kind for this purpose. It is also of rapid growth, comes soon into bearing, and bears abundantly. It is a first rate "*hand apple*," as our old ne'ghbor used to say—in other words, a fine table fruit (uncooked;) but its flavor when stewed is unsurpassed. To the purity of the *Red Astracan*, it adds a spiciness of its own.

There is a vacancy in time however, between the ripening of these fruits; but I hope that experiments to be made the ensuing season, may discover other excellent sorts. D. T. *Greatfield*, 1 *mo.*, 1851.

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White-wash.—Take two quarts of skimmed milk; two ounces of fresh-slaked lime; two pounds whiting; or the same proportions for any large quantity. Put the lime into a stone vessel, and pour upon it a sufficient quantity of milk to make a mixture resembling cream; then add the remainder of the material. When this is done, crumble and spread the whiting on the surface of the fluid, in which it will gradually sink. It must then be well stirred, or ground, as any other paint. By the addition of any coloring matter, you may make it suit your fancy. It must be put on with a paint brush, and when dry, a second coat should be given. The quantity named, is sufficient for twenty-five square yards.

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Preparations of Barley.

Moulded Barley:—6 oz. of pearl barley, 3½ pints of water, and sugar. Steep the barley for an hour; drain it, and pour the water boiling upon it, let it stew quickly in the oven in an earthenware jar, covered, until perfectly soft, and all the water is absorbed. When about half enough, add the sugar, and essence of lemon, to the taste. Pour it into a mould, previously dipped in cold water, and let it stand to set. When boiled quickly, the above quantity requires 2½ hours, and is a much better color than when it is longer in preparation. When the barley flour is used, no steeping is required.

Barley Soup:—3 oz. of barley; 1½ oz. of stale bread crumbs; salt, and parsley. Wash and steep the barley for 12 hours, in ½ pint of water to which a piece of carbonate of soda (the size of a pea) has been added; then pour off the water not absorbed, and add the crumbs of stale bread, 3 quarts of boiling water, and the salt. Digest these in a salt-glazed covered jar, in the oven or (boil them slowly in a well-tinned covered pan,) for from 2 to 4 hours, adding the chopped parsley and a little pepper, 30 minutes before the expiration of the time for boiling.

Barley Water.—1 oz. of pearl barley and 2 pints of water. Boil the barley in the water till it is reduced to 1 pint; then strain, and sweeten, flavoring with the essence of lemon, rind of lemon, raisins, or currant jelly. Although the additions to the barley water render it more agreeable, they, however, lessen its diluent properties.—*Vegetarian Messenger.*

ANSWERS TO INQUIRIES.

Name of Apple.—S. S. D., Meriden, N. H. The apple which you received under the name of "Washington Strawberry," may be the Late Strawberry, of which Thomas gives the following description: "Late Strawberry. (Syn. Strawberry, Autumn Strawberry.) Size medium; roundish, slightly conical, sometimes faintly ribbed; nearly whole surface with small broken streaks of light and dark red; stalk slender, about an inch long, basin ribbed; flesh yellowish white, slightly fibrous, very tender and juicy, with a fine, very agreeable, sub-acid flavor. Young trees of remarkable thrifty growth, leaves sharply serrate, which at once distinguishes them from the crenate leaves of the Early Strawberry. Ripens early in autumn, and often keeps till winter. Very productive. One of the best early autumn apples."

Loss of Manures.—M. E. O., Galesville, N. Y Fertilizers are wasted both by leaching or washing, and evaporation. That they are carried off to a great extent by the former mode, may be seen by an examination of the water which runs from fields just after rains. It is evident, also, from the rich deposit which is left by streams, and the general fertility of alluvial soils. The substances which promote fertility in soils, are more or less soluble, and hence may be taken up and carried away by water. The *organic* portions are capable, besides, of assuming an æriform state, and may be taken up by the atmosphere. The nitrogenous portion of manures, (ammonia,) which is, perhaps, their most valuable property, is very volatile, and readily escapes into the air when not covered or combined with earthy or carbonaceous matters. It is also easily dissolved by water, and when the soil is unduly saturated, may be taken away by the liquid. (See Cultivator for 1848, p. 284.)

Hedge.—W. P. B., Coxsackie. The Buckthorn will be the "easiest and quickest raised, and most durable," and it will "keep fowls from entering." You can buy two-year-old plants at most of the nurseries at $5 per thousand, and seed may be had of the seed-dealers at $1.25 per quart. The plants should be set in a double row, or two rows, six inches apart, and a foot apart in the rows, which will require 32 plants to a rod, or 2000 to 1000 feet. (See Cultivator for 1850, pp. 68, 69.)

Animal Offal as Manure.—T. H. C., New Albany, Ind. We think the best use which could have been made of the "sheep's heads, hogs' feet, kidneys, and plucks," would have been to mix them in a heap with the "creek mud and forest leaves," together with strong, unleached wood ashes, at the rate of one bushel to five of the animal matter. The strong decomposition which would follow, would completely dissolve the flesh, skin, &c., and render many of the bones so soft that they might be easily pulverised sufficiently to be applied to the soil.

The mud and leaves would absorb the gases. The compost will be very strong, and should be applied with caution till it is ascertained how much the crops will bear. It should be slightly buried, but kept near the surface. Night-soil may be mixed with muck at the rate of one load of the former to three of the latter. It should be mixed several weeks before being used. It is most properly applied to grain crops; it is unsuitable for potatoes and culinary vegetables generally.

Draining-Tiles.—T. H. C. We know of no point nearer you than Waterloo, in this state where these tiles can be had. Mr. B. F. Whartenby of that place can supply the various sizes.

Mulching for Potatoes.—C. D. S., Junction, Ill. We should think the effect of covering the ground between rows of potatoes, with straw or coarse stable manure, would be favorable to the crop. It would tend to keep the soil moist, and at a more equable temperature than if it were exposed directly to the sun. Our course would be to hoe the potatoes, carefully, as soon as they were fairly above ground, and then spread over the litter. If it was laid three inches thick, it would probably prevent all growth of weeds for the season, and would supersede the necessity of any further cultivation.

"Live Forever."—J. F. G., New Baltimore, N. Y. We do not know the plant to which you allude under this name, and therefore cannot advise as to the "most expeditious way of eradicating it." Please send a specimen of the plant.

Locust for Timber.—S. H., Amenia, N. Y. The yellow locust, (*Robinia pseudacacia,*) is the best for timber. The seed may be planted either in spring or fall. If in the former, it is best to soften the hard covering of the seed by pouring hot water on it, which will greatly hasten germination. If planted in fall, this is not necessary, as the frost will produce the same effect. Make drills, three feet apart, and drop the seed about as thick as you would bush-beans, covering to the depth of two inches—keep the plants clean from weeds. They may be transplanted to the plantation the second or third year. The seed is for sale by Emery & Co., at $2 per pound.

Red Cedar for Hedges.—G. M., Lowell, Mass. Mr. James Wilson of this city, has the plants suitable for transplanting.

Michigan Sod and Subsoil Plow.—C. W. C., New Durham, Ind. This plow is for sale by Prouty & Mears, Boston, Emery & Co., Albany, and Newell French, (the proprietor of the patent,) Rome, N. Y.

Pond Mud.—D. S. O. This would probably be useful in improving your sandy soil. Your best way will be to apply several loads by spreading it on and incorporating it with the soil, next fall. You will see by the result whether it would be an object to apply more.

Mill for Grinding Corn and Cobs.—D. S. O. Sinclair's corn and cob-crusher, cost, $35 to $40, according to size, with extra cutters and plates. It is for sale by R. Sinclair, Jr., Baltimore, and Emery & Co., Albany.

Mineral Paint.—G. A. H., West Stockholm, N. Y. You will find an article on this subject in our volume for 1849, p. 379. W. H. Starr, 67 Beekman street, New York, is an agent for the sale of this kind of paint.

Curious Machine.—M. K., Fond Du Lac, Wis. "Has the inventive genius of Yankeedom, yet produced a machine that will thrash, grind cob meal, and cut straw—two-horse power, and costing not over $100 altogether?" We *rather think* not, but if any one knows of such a machine, let him speak.

Sandy Soil.—A. C. C., Spencer, Tenn. The clay, pounded bricks, and the muck taken from your "mountain bog," of which you speak, are good substances to apply to your sandy soil. Your stable manure would do better made into a compost with the muck and clay, than applied by itself on such soil. The "chips and dirt from the wood-house" we think would not be worth the carting on the land you describe.

Plan for Stable and Carriage-house.—A. C. C. We would refer you to our volume for 1844, pp. 282, 385, and the volume for 1846, p. 81.

Gypsum.—D. S. O., Clarion county, Pa. We are unable to refer to any analyses which would show the difference in the Nova Scotia and Genesee plaster; but by an experiment on a small scale, you could readily ascertain their relative value for your purposes.

Straw Cutter.—W. E., Jonesboro, Tenn. As a cutter for straw or hay, we know of nothing superior to Hovey's. Its price is from $8 to $25, according to size—latter for horse-power. For cutting and mashing large cornstalks, Wheeler's is an excellent article. Price $27, for horse power.

Grass for Sandy Loam.—W. E. We should think the orchard grass (*Dactylis glomerata*) and perhaps the Kentucky Blue grass (*Poa pratensis,*) if your soil is in tolerable condition, might do as well as any with you.

Destruction of House Rats.—W. S., Lahaska, Pa. Rats may be decoyed by various substances, and induced to enter traps set for them. The oil of rhodium and oil of anise are used for this purpose by professional rat-catchers. Dr. J. V. C. Smith of Boston, states that he has used these substances with advantage. He states also, that ground plaster or gypsum, mixed with dry meal, will be eaten by rats, and that it will *set* in the stomach and kill them.

Corn Planter.—W. S. "Is there a machine for planting corn with accuracy?" Emery's will plant it with sufficient accuracy, unless you want it in rows *both ways*. W. D., Quakertown, Pa. Emery's machine is generally preferred in this section for corn, broom-corn, &c.

Dairy-house.—D. A. L., Bethel, Vt. You will find some good suggestions in relation to the construction of such a building, in Mr. Craig's communication in our March number. For description of the best modes of butter-making, practiced in this state, see Cultivator for 1848, pp. 207, 271—also for 1850, pp. 169, 170.

Bone-mill.—L. B. A., Dorset, Vt. We do not know of a cut of such a mill. Should we find one that we think would answer the purpose, we will publish it.

Seed Corn.—J. W. W., Montgomery county, Pa. We should think the Vermont improved Canada, the Red Blaze, or the Early eight-rowed White, all of which could be had of Emery & Co., of this city, would, if planted "from the first to the twelfth of May, mature in time to be taken from the field and put in shocks by the first of September;" and if the ground was in good condition and the crop well cultivated, there would be no difficulty in obtaining fifty bushels to the acre.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Kitchen Garden.

As often as any one visits our horticultural exhibitions, he cannot fail to be as often struck with the fine appearance of the vegetables, their large size, and succulent growth. Here, with the thoughtless, the interest ends; while others naturally ask themselves, "why do not the products of my garden—now small, tough, and stringy,—grow like these?" This is a very profitable inquiry, and we shall endeavor to answer it in some of its particulars.

To have good vegetables, the first, and usually by far the most important requisite, is a *good soil*. To keep a free and succulent growth during our hot summers, it must be *deep*, so as to form a magazine of moisture, by absorbing like a sponge all the rains that fall, and retaining them till wanted in time of drouth. This a shallow soil cannot do, neither can it allow that full and free extension of roots so essential to large and vigorous growth.

Whenever a garden soil is deficient in these two great qualities, as most are naturally, it must be improved by artificial means. Whatever may be its character, the first thing is to have it thoroughly drained, unless it should happen to possess the very unusual merit of needing no draining. Ditches are best laid with tile manufactured for the purpose; but where small surface-stones are plentiful, they are quite as economical, and at the same time it is useful to the land, to use them instead. But here great caution is needed to prevent the soil from settling or washing in among them,—a very common evil. It is prevented by covering the surface of the stones with pebbles, or small flat stones, or more easily with slabs if they can be cheaply obtained. Being excluded from the air, they will last a long time, especially if the wood be of any durable kind. We have never found them to fail in preserving ditches, even where the soil partook strongly of the character of quicksand. They are covered well with straw or inverted sods before the earth is shovelled in.

To deepen the soil, first use a subsoil plow to mellow its texture to a depth of a foot and a half, or if possible two feet. This will admit the trench-plow, (that is, a large common plow in a previous furrow,) to a depth which could not possibly be attained without subsoiling, and will serve to mix the parts together and to work in the manure, to such a depth as to manufacture a deep bed of rich garden earth. The depth could not be reached without the subsoil plow, and the manure could not be worked down without the trenching; and it may be useful to alternate them, two or three times before the work is done in the best manner. Where the garden is so situated that a team cannot be introduced, the improvement effected will well pay for the cost of trenching by hand.

Soils are very often either too heavy or too light. When too heavy, they may be rendered lighter by working in coarse manure, chip-dirt, and straw, in connexion with carting on sand. The latter may seem a slow and costly operation; but as the sand thus applied always remains, it only requires a few annual dressings to effect a great and permanent improvement. We have seen heavy soils, which were always either hard and cloddy, or else unfit to work from their plastic adhesiveness, made fine, rich, crumbling, and fitted exactly for gardening, by burning the earth. This was done by first making a fire of such coarse knotty wood and vegetable rubbish as could not well be used as fuel within doors, and then as soon as it began to burn well, to throw on earth gradually, so as to keep it half smothered, till the wood was consumed. This was done at the dry season, and when a large portion of old turf was thrown on the fire, with some brush or vegetable rubbish, a great deal of earth was burned with very little fuel. This burnt earth, scattered over the ground, had a great and very permanent effect; and there is probably no cheaper or more effectual way of mellowing as well as enriching heavy soils.

When the soil is too light, it may often be made just right by mixing up with it the subsoil. If the under soil is not clayey, carting on an annual dressing of clay will in a few years effect a great improvement.

It sometimes happens, that old, long-worn garden soils, may be strikingly benefitted by subsoiling and trenching; the surface above and the marly stratum immediately beneath, constituting a mixture of precisely the kind wanted. In other cases, the application of lime and ashes will prove excellent on old gardens.

A great saving may be effected in the cost of *cultivating* kitchen gardens by the use of the plow and cultivator, wherever they can be so laid out as to admit the labor of a horse.

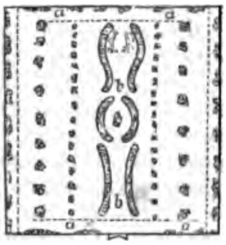

Fig. 1—Kitchen Garden for horse culture.

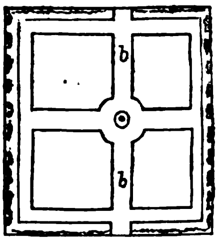

Fig. 2—Kitchen Garden laid out into quarters.

In the above figure, (Fig. 1,) we have endeavored to show an arrangement for this purpose, where dwarf fruit trees, currant and gooseberry bushes, &c. are planted in continuous rows across the garden; the crops of vegetables being planted between, and the whole cultivated by a horse, which turns about at the ends on the spaces or alleys, *a a*. The flower garden and ornamental part occupies a strip at the centre, on each side of the alley *b b*. If desired, this part may be wholly omitted. Fig. 2, shows the more common way of laying out kitchen gardens into *quarters*, where, it will be observed, horse labor cannot be introduced.

There are a few of the smaller vegetables, as radishes, lettuce, &c., which cannot well be worked with plow and cultivator. For such, it is best to have one single narrow bed extending across the garden. For many of the larger vegetables, the space allotted to the improved mode will give a better growth than the common way of planting them in thick beds. For example, asparagus when thus given plenty of space, will attain more than double the growth acquired with ordinary cultivation.

There is another matter of economy which will be obvious as soon as named,—that is, placing the kitchen garden as near to the stable as practicable, so that there will be no temptation to omit the copious application of manure at the right moment.

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Suckers from Fruit Trees.

There is a general impression that suckers of fruit trees are less valuable for stocks than seedlings—possessing, it is alleged, less vitality, and exhibiting a stronger tendency to the reproduction of suckers. My experience on this point has been neither very long nor extentensive, but as far as it goes, I doubt both of the above assertions.

The plum, cherry, quince, gooseberry and currant, eminently, and the apple and pear, to tome extent. seem *designed* to continue themselves in this mode, as well as to reproduce themselves from seed. The same thing is true of a great many other fruits and flowers. whether produced by woody stems or herbaceous plants. As a philosopher, I would hesitate hastily to question such an arrangement of nature, as unwise, since it is so eminently cheap and useful. We have now in this. Oneida county, the Bleecker plum, (the Lombard of Downing,) by the thousand, not one of which, so far as I know. was propagated either by bud or graft. And yet this tree is as thrifty and hardy as a burdock in an old barn-yard. The same remark may be made substantially, of other kinds of plums. That a seedling possesses a higher degree of vitality than a bud, graft, or sucker, is perhaps philosophically true, especially when the latter is from an old tree; but when taken from a young tree, the difference may be so slight, as practically to be neglected.

Again, the assertion that a sucker exhibits a superinduced tendency to the reproduction of suckers, is in accordance neither with science nor facts. A seedling tree—root and stem—is one homogeneous system. The original stem, standing centrally upon its roots, and a sucker, standing, it may be, four feet distant from the same tree, and based on one of its extended horizontal roots, can hardly be supposed to differ in constitutional tendencies. The *parent* tree has sent up this sucker, and thus manifested *its* inherent tendency; will the *sucker* be likely to do either less or more? But let us investigate the main allegation above alluded to—that *suckers exhibit less vitality than seedlings*. A standard seedling tree, is found from examination in the autumn, to exhibit at the collar, below it, or upon some extended root, a small bud or buds. In the succeeding spring these buds throw up shoots of vigorous growth, dependent, for the time being, on the parent tree. In the latter part of the same season, but sometimes not until the succeeding one, such a sucker forms a collar, just beneath the surface of the earth, from which it throws out in regular order, an abundance of horizontal roots. Soon after this, the tap-root that connects with the parent tree, and which, for the time, had been its sole radical dependance, becomes nearly obliterated. You have now, at the end of the first or second year, a perfect tree, whose sucker origin cannot be inferred from anything in its appearance. Its origin in a little bud, on the healthful root of a young tree, may have combined as much vitality as would be involved in its origin from a seed borne by the top of the tree,—certainly as much as would be found in a bud or graft from the same tree. In this case you have the advantage, moreover, if the tree were a valuable variety, of its propagation upon its own roots. There may be cases in which a tree, valuable for its fruit, has always exhibited a feeble or imperfect root. In such cases the variety should be extended by buds and grafts set upon healthful stocks. There is another consideration. A tree, even when well situated in regard to climate, soil and position, will usually exhibit greater hardiness, and more abiding health of root, than of stem. Mechanical accidents, insects, and the influence of unfavorable seasons—one or all, may seriously damage the stem, while the root remains in comparative health. In this case, the renewal of the tree by heading back, or by propagating it from sprouts already existing, is a matter of obvious propriety. It is, I think, a statement of Loudon, in his Encyclopedia of Gardening, that the English nurserymen, who cultivate hardwood trees, frequently head back young trees, once and even twice, before they get a stem that is healthful and vigorous. Indeed, nature herself, often does this, throwing up a stout side shoot or sucker, to supercede the parent tree, where disease or accident had injured it.

It may be farther observed, that many trees, propagated by buds and grafts, exhibit imperfect adaptations to the new stock. Here the union is never quite perfect and healthful. Now this difficulty is avoided by the propagation of such trees by suckers. Nay, farther, a difference of season of maturity, or chemical character of circulation, frequently exists between the stock and the budded or grafted top, so that the fruit is defoliated before it is ripened, in consequence of the earlier maturity of the stock; or its fruit injured by the astringent character of the sap of the same stock. It were clearly better to use natural suckers of a good variety, than to propagate it on such stocks. In conclusion—I infer that it is safer to follow nature in all cases, where she prompts strongly to the continuance of a variety by suckers; and that, therefore, there is no objection to the use of suckers, as stocks for buds and grafts, simply on the ground that they *are* suckers; and that, though in particular cases, suckers may exhibit less of vitality and shapeliness than seedlings, their general utility is not affecfed by that origin. The method so much resorted to in Europe, of propagation by *layering*, is analagous to propagation by suckers, though obviously a less natural, shapely, and healthful mode.

Suckers, if removed before they form collars and horizontal roots, are almost in the state of cuttings, and will often die, or dwindle for two or three years, before they recover and grow rapidly. Hence they should not be removed until well supplied with horizontal roots. Suckers, too, that spring up in a well cultivated soil, will make much better trees than those which spring up in neglected positions. Suckers sometimes come up in close bundles. It is then always best to thin them out to two or three, since otherwise they cannot root well, or, if they do, cannot be separated safely. C. E. G.
Utica, Jan. 27, 1851.

Fruit Prospects for 1851.

The progress of vegetation in 1850, in the case of the peach, plum and grape, was probably unfavorable n its bearing on the prospects of fruit for the present year.

Peaches were greatly injured by the "curled leaf," in June, 1850, the fruit being nearly all destroyed, and all the early shoots incurably dwarfed. The shoots that must bear the fruit, if any, this year, started late, and did not mature very well in the autumn. My fear is, that the buds had less vigor than usual to meet the severity of winter. A considerable number of buds are yet alive, enough, perhaps, for a fair crop; but whether they will be sustained though the remaining vicissitudes of winter and spring, we cannot tell.

Plums were defoliated extensively by the hot, damp weather between July 14th and Aug. 21st., while yet the fruit was not mature. Hence, I am lead to fear a feeble state of its fruit buds, though my experience in these matters does not enable me to anticipate confidently.

Grapes were severely injured, at the same time, and in the same way, as plums were. Much of the fruit never matured, in consequence of the defoliation occasioned by the mildew. When trimmed, in October, many vines needed cutting back nearly to their old wood, so immature was the growth of the season. Grafts set in April, that had made a growth of eight feet, were frequently cut back almost to the stock. I fear, therefore, the buds of next spring will start weakly, at least in many places. C. E. G. *Utica, Jan.* 25, 1851.

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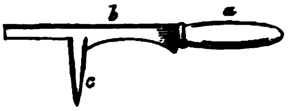
On Grafting.

As the season for grafting is approaching, a few remarks upon that subject may be acceptable. There is no kind of labor which brings a richer return than a few hours spent in grafting. And at the present time there is no difficulty in obtaining scions of the most approved varieties, gratis, or at a rate merely nominal. The best scions for grafting apple trees, are obtained from the last year's growth, on the points of bearing limbs. Some grafters take scions of two years growth, under the impression that the grafts will bear one year sooner, but I would not recommend the practice. Many of the buds appear to lose their vitality, and the growth is apt to be irregular and unthrifty. The scions may be cut any time during February or March, and placed in a cellar with the butts upon the ground where the air will not strike them. In grafting apple trees, I have been the most successful, in cutting the scions about the fifteenth of April, and setting them immediately. Grafting wax may be made in the proportion of 2¼ lbs. rosin, 1 lb. tallow, and ¾ lb. of beeswax. When melted together it should be poured into a tub of water, and the operator, after rubbing his hands with tallow, should work it over till it becomes tough, and light-colored. If it should be too sticky, more beeswax may be used. Some grafters omit the tallow, and use in its stead, a small quantity of linseed oil, poured into the kettle after the rosin and beeswax are melted. If the weather should be cold at the time of using, the wax may be softened by placing it in a kettle of warm water, or holding it over a lantern with a candle burning in it. The tools necessary for grafting are—a back-saw, set wide enough to run easily through the limb, a grafter's knife and wedge united, to split the limb and hold it open till the grafts are set; a small mallet, and a thin bladed pocket knife, with which to sharpen the scions. Probably the best time for grafting apple trees, is from the 15th of April to the 10th of May. If the grafting is to be done in May, the scions should be cut earlier in the season. As the operation of split grafting is easily learned by a few minutes observation of the process, I need not go into the details. The outside of the wood in the stock and scions should exactly correspond.

In grafting an orchard, many farmers set a large number of limbs in the middle of the top, leaving many of the lower branches to be lopped off as the new crown increases in size. It would be better for them to distribute their favors more equally over the tree, and thus secure the advantages of greater space, air, and light—and finally more abundant bearing.



The annexed figure represents a very convenient grafting tool for splitting the stocks in orchard grafting—*a*, the handle—*b*, the blade—*c*, the wedge—*d*, the head to knock it out with, after the grafts are set. The whole need not be more than 9 or 10 inches long, including the handle. D. D. *Geneva, March,* 1850.

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Northern Fruit Trees.

Eds. Cultivator—In the last volume of the Cultivator, p. 395, is an article from the pen of S. W. Jewett, on the adaptation of southern trees to a more northern latitude, which appears to me to be calculated to mislead the unwary, and therefore to require some notice.

The writer admits that—"fruit trees of most kinds taken from nurseries along the sea-board, and replanted in Vermont, have, in most cases, met with ill success." But he adds—"the fact is now *well established*, that those trees re-set in these parts [Addison county] which were propagated in the nurseries on the banks of the Hudson, *are hardy and thrive better than most of the trees from our nurseries.*"

On what authority this statement is founded, except the single case of Mr. Hunt, who, it seems, is engaged in selling trees from southern nursuries, the writer has not informed us. I apprehend the matter has not been sufficiently tested to become a well established fact, that trees reared on the banks of the Hudson are better adapted to our climate than those of our own raising. The *admitted* fact that trees brought from the sea-board —from a climate only a little milder than that of the banks of the Hudson, meet with ill success, seems sadly to conflict with the *other* fact so "well established."

Now, the writer will not probably deny that the reason of the almost universal "ill success" attending trees brought from the sea-board is, that being reared in a milder climate, their texture and habits are not such as to adapt them to our higher latitude: and if there is any stability or uniformity in the natural laws, this reason holds good in all cases where trees or other plants are removed from south to north, just in proportion to the difference in the temperature of the climate; that is, a tree brought from Newburgh, Hudson, or Albany, is as *really* affected by its removal from a milder to a more rigorous climate, as one brought from Long-Island or New Jersey; but only in proportion to the change of climate to which it is subjected. In order to prove that there *is* a decided difference in climate, between the banks of the Hudson and lake Champlain, it is only necessary to refer to the fact that Chestnuts, Peaches, Nectarines, Apricots, Quinces, the Catawba Grape, and several other kinds of fruit, flourish and mature on the Hudson, while they will not succeed in Addison county, except in some peculiarly favored spot, and with special protection and care.

If it is a fact, as stated by S. W. J., that some of the trees from the south, which have come under his observation, "*thrive better than most of those raised in our nurseries,*" the cause must be sought elsewhere than in the change of climate, for *that*, as has been shown, is against them. When our own northern nurseries are able to supply trees of as vigorous growth, as fine appearance and of as choice varieties as are brought from southern nurseries, and *I trust that day is not far distant*, it will require no uncommon share of Yankee shrewdness to decide which will be preferred for northern orchards. Row'd T. Robinson. *Ferrisburgh, Addison county, Vt.*, 1*st mo*. 18, 1851.

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Cuttings from Suckers.

Peach trees, headed down for the development of the bud, and Quinces under all circumstances, frequently throw up suckers close to the parent stem. These if removed from the old stock with clean cut, will grow with great facility.

It is not worth while to do this ordinarily with peaches, certainly not where stones are to be had. But with Quinces it is otherwise. Such cuttings from the latter will make twice the growth the first season that will be made by an ordinary cutting taken from the top of the tree.

The reason obviously of this superiority lies in the fact that the stump of the cutting, having been formed below the surface, is more disposed to throw out roots than a cutting all whose growth had been above ground.

Indeed, in the case of quinces you can frequently take off suckers with roots already formed.

I have not tested this method with suckers from the pear, apple and plum, but analogically I have no doubt of similar success.* C. E. G. *Utica, Jan.* 24, 1851.

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Timber of the Deodar.—It appears that the timber of the Deodar cedar, (the most elegant perhaps of all evergreens, and which now sells at so high a price in this country,) is of the most durable character. Among the Himalayas, its native localities, the trunk sometimes attains a size of ten to twelve feet in diameter; and an instance is recorded where the timber was taken from a temple supposed to have existed at least 1000 years, as sound in appearance as when placed there.

NEW PUBLICATIONS.

American Journal of Science and Art.—The number of this able and valuable journal for March, contains several interesting communications, among which are the following: Velocity of the galvanic current in Telegraph wires; by B. A. Gould, jr. Mineral Springs of Camden; by T. S. Hunt. Whirlwinds produced by the Burning of a Cane-Brake; by A. F. Olmsted. Notices of coal in China; by D. J. McGowan. Limit of Perpetual Snow in the Himalaya; by Lieut. Strachey. Analyses of the Ashes of certain Commercial Teas, communicated by Prof. E. N. Horsford. The work is conducted by Professors Silliman and J. D. Dana, aided in chemistry and physics by Dr. Wolcott Gibbs. Published in New Haven on the first of every second month, at $5 per year.

Harper's New Monthly Magazine.—We have received the number for March, for which it is sufficient praise to say, it equals its predecessors. The first portion comprises "Spring," by Thompson, with fifteen very beautiful illustrations. With the usual variety of contents, the number closes with a humorous chapter from Punch, appropriately illustrated. Published monthly at $3 a year, by Harper & Brothers, 82 Cliff street, New-York.

Lossing's Pictorial Field Book of the Revolution—No. 11 of this work, relates particularly to some of the first scenes of the revolution, such as the battles of Lexington, Bunker Hill, &c. The illustrations are of the highest order of merit, and the general execution of the work is deserving the highest praise. Published by Harper & Brothers at twenty-five cents a number, each number containing forty-eight large octavo pages.

The Farmer's Guide.—We have received No. 15 of this excellent work, by Henry Stephens, author of the *Book of the Farm*, assisted by Prof. J. P. Norton. It is the most thorough work on agriculture which has been published. New York: Leonard Scott & Co., 79 Fulton street—twenty-five cents per number—the work to be completed in 22 numbers of 64 pages each.

Next Show of the Royal Agricultural Society.—The next show of this society will be held in Hyde Park, London, in July next, during the exhibition of the great World's Fair. The Council of the Society has decided on the details of the prize-sheet, of which the following schedule represents, summarily, the divisions and the respective amount of prizes assigned to each:—

Short-horn cattle,	£215
Hereford cattle,	215
Devon cattle,	215
Longhorn cattle,	40
Channel Islands breed,	40
Sussex breed,	40
Scotch horned cattle,	45
Scotch polled cattle,	45
Welsh, Irish, and other pure breeds,	40
Horses,	270
Leicester sheep,	170
South-downs and other short-wooled sheep,	170
Long-wooled sheep (excluding Leicesters,)	85
Sheep best adapted to a mountain district (excluding Southdowns,).	60
Pigs,	180
Total,	£1770

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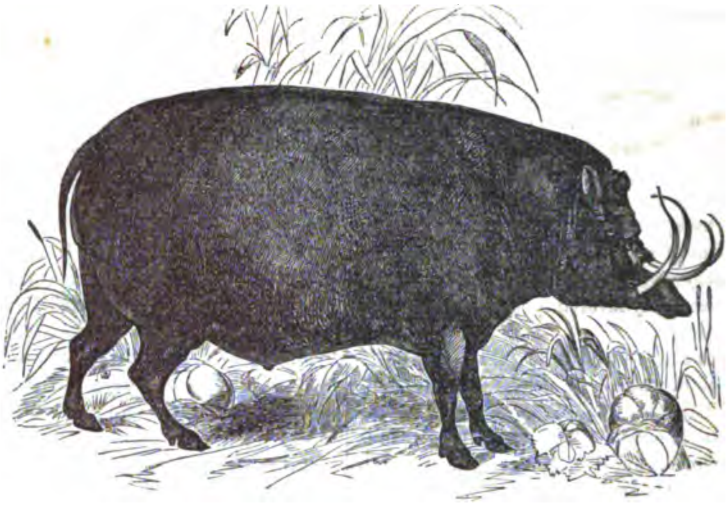
* A success proportioned to their susceptibility of being grown from cuttings, which all know to be far less than in the case of quinces.



THE BABIRUSSA

The Farmer's Note-Book.

The Babirussa.

The group of animals termed *Suidæ*, or the hog family, comprehends several distinct genera, one of which is the Babirussa, the animal represented by the above cut. It is the only known species in the genus. Its native country is the Indian Archipelago, from which it has been occasionally taken to various European countries, but has never been fairly reclaimed from its wild state, though specimens have been kept for several years in menageries and museums. The animal resembles the hog in its habits, and its flesh is said to be good for food. Martin observes—

> "Though allied to *sus*, [hog,] the Babirussa is distinguished by certain peculiarities, one of which is the upward direction of the alveoli of the upper tusks or canine teeth; these tusks in the male, are enormously developed, as to length, and are extraordinary both in their form and position. They do not pass out between the lips, as in the hog, but cut through the skin of the snout, so as to appear like horns growing in an unusual situation. Instead of being stout and strong, they are slender, and rising vertically, curve backwards with a slight indication outwards, so as to form part of a circle, and often touch the skin of the forehead. The tusks of the lower jaw are sharp and powerful, and emerge from between the lips; they bend upwards and outwards, and are sufficiently formidable weapons. The upper tusks are wanting in the female, and the lower are small. The incisors are four in number in each jaw. The molars are five on each side, above and below."

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Improved Ornamental Fence.

Eds. Cultivator—Enclosed I send you an addition to the already numerous plans for good fences, which like laws, to be serviceable, should be efficient, durable, and cheap; in order to secure these three qualities, many circumstances must be considered. The situation of the farm, the relative cost of different materials, the convenience for working them, &c. If there be plenty of timber on the land that would make rails, and so situated as not to be valuable for other purposes, an efficient, durable, and cheap fence may be made of rails; but if the land be free from timber, and have a plenty of stone scattered over the surface, a good stone fence would possess the three requisite qualities in a high degree. Should the land be free from both timber and stone, a board fence, such as is described in the fifth vol. of the Cultivator on the 150th page, if cedar posts and boards should not be very expensive, may possess the above mentioned qualities,—but in the absence of all these conveniencies, such a fence as is described below, and represented in the accompaning diagrams, will possess the desirable qualities in a high degree. Picket fences are well known to be the most efficient, but their durability, when constructed wholly of wood, has not been such as would warrant the expense, therefore they possess but one of the above qualities. There are three kinds of picket fences contemplated in the cuts, all having iron posts. (See Figs. 1, 2, 3.) Where large cobblestones are conveniently situated on the land, they may be placed about sixteen feet apart, on the line of the proposed fence, about half buried in the earth, and the iron posts drilled into them, and either wedged, cemented, or run in with lead. (See Fig. 4.) When quarried stone are more convenient, blocks may be split out about three feet long, set in the ground about two feet, and the iron

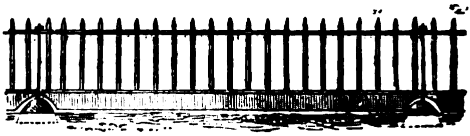


Fig. 1.

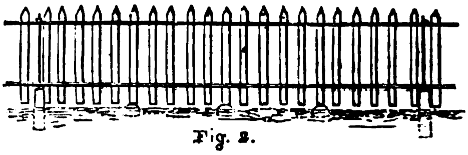


Fig. 2.

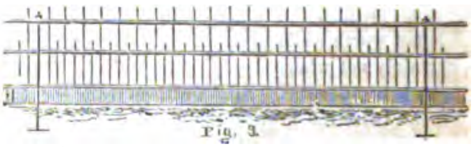
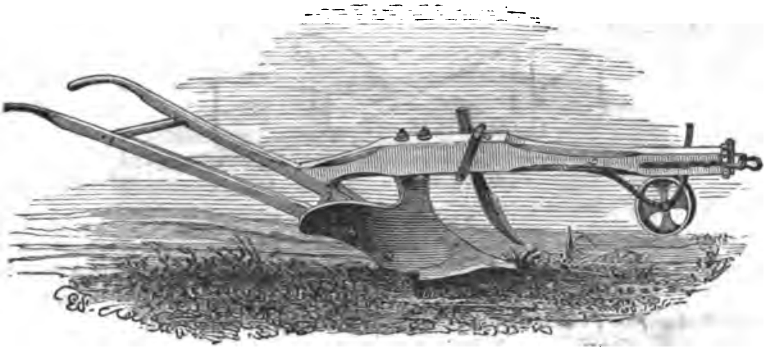


Fig. 3.



W. U. Chase's Amsterdam Plow, No. 7,

Which received the second premium for light soils, at the trial instituted by the New-York State Agricultural Society, June, 1850. It is manufactured by Mr, CHASE, with various other sizes, at Amsterdam, N. Y. For particulars, see report of the committee on the trial referred to, in our columns for 1850, pp. 324–330—also *Transactions* of the Society for 1850.

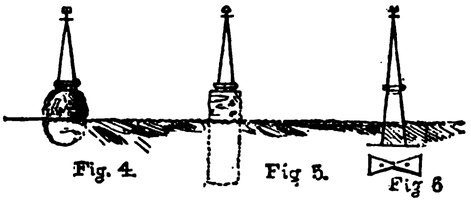


Fig. 4. Fig 5. Fig 6

post drilled into the top, as represented in Fig. 5. The third kind is where no stone is convenient; the iron post is then set into a cast-iron plate, represented in Fig. 6, which plate should be about two feet long, and buried below the surface about six inches, which makes a very permanent post, unless the land is subject to heaving by frost; in such case the plate should be buried deeper.

Fig. 1 is a view of a fence supported by posts of small iron, round or square, about half of an inch in diameter if square, and five-eights of an inch if round; the manner of constructing the posts is shown in the cut, so plain as to require no further description. The square pickets are put through round holes, as shown in Fig. 7, which also shows the manner of fastening the iron posts to the lower rail, by square staples driven round the iron into the wood; Fig. 8, shows the manner of putting paling through the rails instead of square pickets.

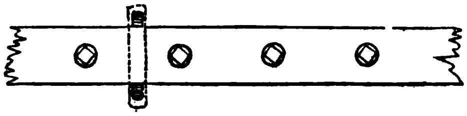


Fig. 7.

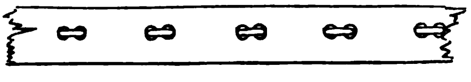


Fig. 8.

Below are estimates, showing the relative cost of fences of stone and iron posts, and posts all iron,—the wood work not planed. About sixteen cents a rod may be saved by letting the pickets or paling go through the lower rail to the ground, and dispense with the base-board.

Cost of picket fence with base-board, (Fig. 1.) per rod—

20 feet 1¼ inch lumber, at $7.00 per M.	$0	14
16 feet 1 inch lumber, at $5.50 per M.		16
5 lbs. iron, at 8 cents per pound,		40
1 stone, say,		25
Expense of constructing,		30
Total,	$1	18

Cost of pale fence, without base-board, (Fig. 2.) per rod—

15 feet 1¼ inch lumber, at $7.00 per M.	$0	11
20 feet ¾ inch lumber, at $5.00 per M.		10
5 lbs. iron,		40
1 stone, say,		25
Expense of constructing,		30
	$1	16

Cost of three rail and double picket fence, with all iron posts, and with base-board, (Fig. 3,) per rod—

25 feet 1 inch lumber, at $5.50 per M.	$0	13
17 feet 1¼ inch lumber, at $7.00 per M.		12
7 lbs. wrought iron, 8 cents per pound,		56
9 lbs. cast iron, 3½ cents per pound,		32
Expense of constructing,		20
	$1	33

Cost of a picket fence, with all iron posts, and with base-board, per rod—

20 feet 1¼ inch lumber, at $7.00 per M.	$0	14
16 feet 1 inch lumber, at $5.50 per M.		09
7 lbs. iron, 8 cents per pound,		56
9 lbs. cast iron, 3½ cents per pound,		32
Expense of construction,		20
	$1	31

The above estimate must be varied to conform to the place and circumstances attending the construction of the fences. If required to be constructed by hand labor, the last item in each estimate should be doubled, at least, but if water or steam power be used, with proper conveniences, and materials are procured as estimated, the cost will not exceed the estimates.

Iron posts of this construction, have never been in use to my knowledge, but square pickets have been put through round holes in the rails, for a number of years, to great advantage. DEAN. *Lyonsdale, N. Y, Feb.* 8.

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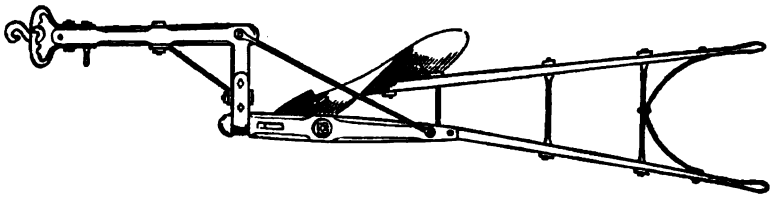
GREAT PRODUCTS OF WOOL.—Mr. Nathan Cushing, of Woodstock, Vermont, recently deposited in the White River wool depot, 490 fleeces of well washed wool, which weighed 1,754 pounds, and sold for $764.34. The extra sold for 46 cents, the fine 43½ cents, and No. 1, 41¼ cts., No. 2, at 40 cents. Average sale by the fleece, $1.91. Mr. Bridge, of Pomfret, deposited 332 fleeces, which weighed 1,447 pounds, which sold for $616.32, the different qualities bringing prices of the first mentioned lot. *Vermont Journal.*



HORTICULTURAL PLOW.

"Horticultural Plow."

The above is a cut of a plow, which we are informed was invented by Mr. John Wilkinson, Principal of the Mount Airy Agricultural Institute, Germantown, Pa. It is described as follows:

"The purposes for which this plow is designed, are for tilling among trees, and along fences, particularly thorn hedges. By shifting the front beam, which turns on an axis, fromed of the front end of the main or stationary beam, this plow may be made to run after the near or off side animal of the team, as desired, thus without the least difficulty, enabling the plowman to perform good and straight work as close to the fences or trees as he desires.

"Any ordinary plow that is adapted to sward plowing, and even one that is considerably worn, will, when altered, by attaching the shifting beam, answer well for this purpose, as its use will not be required but little, compared with other plows; hence a plow considerably worn, will do as well as any. The shifting beam is attached to the stationary one, by framing into it, at right angles with it, a piece of timber of the same size, about ten inches long, with a semi-circular groove cut into it at the other end, so as to fit it to the stationary beam, to which it is attached by means of a piece of band iron, 3 inches wide, and ¼ inch in thickness, around the round part of the beam prepared for it. There are two braces of ½ inch round iron, one above and the other below, attached by the same bolt, at the back end of the shifting beam, from which they extend back to the main beam near the handle, where they are again attached by a bolt, which is removed when the beam is to be shifted, and the braces are brought back to a line with the shifting beam, when the beam is turned to the opposite side, and the braces again bolted to their place."

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Seed Potatoes.

Eds. Cultivator—In communications in the November and January numbers of The Cultivator, on the subject of seed potatoes—the first by Mr. Murray, of Ohio, the other by Mr. Gold of Connecticut—it is claimed that those of the smallest size are equal if not superior to large ones, for seed. Now this is a subject, as Mr. Murray says, of great importance to the farmer; for if from small and indifferent seed, can be produced fair and large potatoes, as he remarks, it is time it was known.

There is no crop the farmer raises, that requires so much seed, or the seed of which costs so much to an acre, as potatoes—ranging from eight to twenty bushels—the difference being one quarter in large or small seed; or if it takes sixteen bushels, which is about the average of fair sized potatoes, to plant an acre, the same might be done with four very small ones, making a difference of twelve bushels—no small item at present prices, or fifty cents per bushel, which would be six dollars in favor of small seed in planting one acre.

Not doubting the correctness of either of your correspondent's statements, for I have heard similar ones, from respectable sources, I still am in doubt as to any good resulting from the practice; on the contrary, my experience and observation having led me to a different conclusion. For six years I have planted both large and small seed—sometimes from necessity, but have always carefully noted the difference, which has been uniformly and decidedly in favor of large seed.

I will specify two cases. In the spring of 1849, I planted two acres of potatoes, a portion of which was planted with small seed. Where I planted large seed, I had good potatoes, but where the small seed was planted I had very small, poor potatoes—the whole being new ground.

The past season I planted the same number of acres, but reserved a quarter of an acre, which I planted with small seed from the size of a walnut up to that of a hen's egg. The result was as all former crops had been with me, they were all small and worthless, besides being more affected by the rot than where large seed was used.

The difference in the vines, was perceptible as far as my potato patch could be seen. Those vines where I planted small seed, being not half the length of the others, besides having a slender and sickly appearance from the time they were out of the ground till they were harvested.

The ground had laid in pasture and meadow for forty years, never having been plowed before. I think the principle holds good of selecting the best of seed for raising potatoes, as much so as for corn, wheat or any crop raised on the farm.

Not doubting but good crops may have been raised, occasionally, from small seed, yet were I in want of seed, and had to buy, I would make three times the difference between large or small potatoes. J. Van Denburgh. *Jamesville, N. Y., February*, 1851.

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Agricultural Reading—Root Culture, &c.

Eds. Cultivator—There is no doubt that agricultural reading is a stimulus to agricultural enterprise. The success of one prompts others to effort; but in order to insure success, there must be an appreciation of the circumstances which were conducive to success in the undertakings of others. Difference of soil or of season, or both, may lead to entirely different results. Therefore a man in reading in your journal of large crops, should not always calculate that his labors will be invariably rewarded with a bountiful harvest.

The Cultivator, from the first to the present volume, has come to me with the monthly contributions of its editors and correspondents, affording a rich entertainment to the mind—furnishing fresh stimulus to effort and improvement, and, I was about to say, I should as soon think of dispensing with the *plow* as The Cultivator. Why, they go as naturally together as the man with the plow; and as the plow needs his guidance and skill, so the man needs others' experience and wisdom to guide him.

Roots, Deep Plowing, &c.—I have always calculated to have a good supply of roots for winter—viz: ruta-baga, or else flat turneps; and have found them of great value. Six to eight hundred bushels of the latter to the acre can be raised with a little pains. I always take land that has been plowed the previous year, (say in corn or potatoes,) plow it *twice at least* the same season, before sowing. After last plowing, dress the land with 18 or 20 waggon-box loads of fine manure to the acre; drag it in thoroughly; with a light plow turn the surface into ridges two feet apart—make the top of the ridge flat and smooth, which even boys can do with expedition, when the land is in right condition, i. e., *mellow*. I sow about 25th July; not allowing the plants to be very near together—say from 4 to 8 inches, according to richness of soil. Two thorough dressings with cultivator and hoe will give the crop a good start of the weeds. The longer they remain in the ground without freezing solid, the sweeter the turnep and the longer it will keep; and the faster they grow, the fairer they are and the less wormy and less liable to be pithy. Manure makes the turnep crop. I have had them so large that the *fourth* turnep could not be got into the half-bushel—have had them weigh 7 lbs. and sound and sweet. The flat turnep is better for cows than the ruta-baga, because it does not give so strong a flavor to the milk, and it gives out no odor in the cellar.

Last season I was determined to try carrots in a small way. The ground was a moist loam, fertile, and with a slope to the south. A part I had cultivated with ruta-bagas two years in succession, (bad husbandry you may say,) because the first crop had not realized my expectations; but the second was from fair to inferior. After the middle of May, it was dressed with long manure (say 20 loads to the acre) and plowed once with Moore's plow—largest size—*driving the plow almost to the beam;* one man bearing his whole weight on it. Of course the horses had to do their part by the hardest. In order to destroy the weeds, the ground should have been plowed twice; but a backward, wet season, an unprecedented amount of work in repairs and building, and my unavoidable absence, prevented. So the weeds, having grown to such a height, could not be effectually buried with the plow. The ground was then thoroughly raked, smoothed, and cleared of every weed that we could find, and marked for the rows, one foot apart, calculating to have plants as near as one inch, and thin them to three or four inches apart; but was afterwards advised to let them all grow, and did, except as some were unavoidably pulled up in weeding—which was done by hand twice, using only the hoe. There was a third weeding; but the work was chiefly done at intervals. About the middle of November, the roots were dug. After trying successively the spade, dung-fork and pick, I resorted to the crow-bar; taking two rows at a time. One of us plunged the bar under the roots at one end of the row, prying them out, while the other grasped by the tops all that were loosened, drew them out and threw them on the ground in ranks.

This embraces substantially the whole process of culture. I enjoined upon the young man who assisted me, to keep an account of the bushels—having measured the capacity of both baskets with the half-bushel. The crop was 87 bushels, on ground (as measured with the ten foot pole) 44 ft. by 88 ft, allowing six inches outside the rows on the 4 sides of the piece—making 14¼ rods (within a fraction) and yielding at the rate of about 976 bushels per acre. This I call a good crop; but do not always expect as good, and intend to try again.

The question may be asked what are carrots good for? Cows when fed with them and corn fodder, well cured, (I always cut mine early and close to the ground,) give the sweetest milk and butter; rivaling in color, richness and flavor, that made on the sweetest grass. For horses, nothing is better—one of mine will eat them *sooner* than oats, grow fat on them and work too.

Last summer, in an effort to drain a wet piece of ground, I dug a ditch through a piece that was dry barren gravel; underneath which was a hard-pan. When the drain was finished, the land was plowed and sowed with buckwheat. Over the drain no manure was put; but the buckwheat was there as "heavy as it could stand," both in wet and dry ground, while on each side it was hardly a foot high. The season was very wet. **Francis Whiting.** *Great Barrington, Mass.*

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The Cayuga Lake.

BY DAVID THOMAS.

The vapors that rise from large bodies of water, have great influence on the temperature, imparting a portion of their warmth to the cold winds that blow over them, and thus lessen the severity of winter. A correspondent suggests that from this cause, the mercury is sometimes 10 or 15 degrees lower in Wisconsin than on the opposite shore of *Lake Michigan*; and this difference may often account for the preservation or loss of the peach crop, when the blossom buds have been *started* untimely. I remember in 1816, when I traveled in the Western States, that the trees were in bearing on the southeastern shore of the *Ohio*, where the cold north-westers had been tempered by the vapors of that river, but none bore on the opposite side; and the same view explains why the district south of *Lake Ontario*, is so favorable to this fruit, while none succeed on its northern shore.

Another curious circumstance connected with the history of our lakes, is the effect of deep water in resisting the formation of ice. It has been said that the water which is chilled at the surface, descends and displaces the warmer portion below, till the temperature of the whole mass is greatly reduced, and *then freezing commences*. Certain it is however, that the shallow parts of our lake are the first to freeze.

From *Long Point*, 7 miles up the Cayuga Lake, *a line north of west*, separates the deep water on the south. Over the northern part, varying from 12 feet deep at the Bridge, to nearly 30 in the deepest places, the ice regularly forms in winter,—while south of that line where the water suddenly deepens, it generally continues open. When I came to reside in this county (46 years ago,) some of the *first settlers* said that opposite to Levana, the ice had never been more than "a thin skim," breaking up in the course of the day; and I am not aware that any exception to this rule had occurred previous to 1832,* when a number of persons passed over the ice from Aurora into Seneca county.

The *continuance* of cold as well as its *intensity*, is deserving of consideration. One severe night in the 3d month, produces much more ice than one equally cold in the beginning of winter. The descent of heavy snows into the lake, also prepares it for freezing.

In regard to the DEPTH of this lake:—More than fifty years ago, J. L. RICHARDSON of *Auburn*, (late First Judge of the county,) informed me by letter, that he had taken soundings opposite Levana, making its greatest depth 250 feet; and Dr. JOHN GRIDLEY (who has given me many other particulars,) stated that in 1826, he found the greatest depth of the lake opposite to Aurora, 282 feet. These measurements show a dip to the south of nearly 16 feet to the mile. It is well known that the *dip of the strata* is in that direction; but whether the Hamilton Group was excavated down to the limestone below, and that these measurements give the true dip, can be only conjectural, though it seems not improbable.

The State Geologist† of the Third District, has said that the greatest depth of this lake is 396 feet; but the name of his informant, the extent of examination, and the point in the lake, are not given.

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Feeding Stock—Large and Small Animals, &c.

EDS. CULTIVATOR—I have lately been reading the State Agricultural Society's Transactions for 1849, which I only got some two weeks ago. To the discussions at Syracuse on Sheep farming, I have paid particular attention, and I am surprised to see men of intelligence, and men of science, prefer one breed of sheep to another because they are *small eaters*. I have been a feeder or keeper of sheep and cattle from my youth, and I never saw an animal pay for his keep, if a small eater. I mean everything I have on my farm to eat heartily, and then I think I have a fair chance for *pay*. The Saxon sheep with me, would not eat enough in cold weather; but would stand in the most sheltered places in the yards or under the sheds, while the Merinos, would be at their racks eating with a good appetite. Consequently, the Saxons would get poorer, while the Merinos were getting fat; and I long since discontinued keeping Saxons—they are not adapted to our climate, at least such Saxons as I have been acquainted with. They have not wool enough to keep them warm. Besides, their pelts are as thin as paper, while the right kind of Merinos have pelts almost thick enough to make water proof boots.

I notice, also, that those gentlemen, or some of them, think that their sheep eat according to their size. I have heard it said, ever since I can remember, that every animal but man, ate according to its size; and this was said, too, by those who were thought men of knowledge; but I am fully convinced that they were under a mistake. It is not easily tested in sheep, but in my stall-fed cattle I have tested it beyond a doubt, and I do say, (without fear of contradiction by practical men,) that I can fat a steer that will weigh 800 lbs. of beef, with as little feed as I can fat one that will not weigh over 500 lbs., and in nine cases out of ten the former will gain much faster than the latter. Everything depends on the natural propensity of the animal.

I am now fatting steers, as usual. I feed 42 this winter, and 110 wethers. Of my steers, 34 are fat, and sold to go off next Monday. They are 4 years old this coming spring, and very fine. The others are younger, and I shall keep them till summer. I shall soon buy in another lot to have fat in June, or early in July. By doing so I make immense quantities of manure and get a fair market price for my corn and hay. I buy and feed some oil-cake, besides.

I think there are not so many cattle as usual fatted in this section this winter, as many lost by them last year, and so far, what have been sold will scarcely pay their cost and keep, but the value of the manure is *incalculable*, especially on wheat growing farms.

EXPERIMENT IN FEEDING THE SEED OF PIGEON-WEED.—I made an experiment in feeding pigeon-weed seed, ground fine, to cattle. I selected two steers, one apparently a good feeder, the other rather hard in the hide with coarse hair, and, as I thought, the worst feeder I had. Those two I commenced feeding with four quarts of meal of Pigeon-weed, (alias red root, alias steinkrout,) per day. They eat it well, and gained. I increased it to six quarts per day; they still eat it, and did well. I thought it cost me nothing, and I increased it to eight quarts each per day; they still eat it for a few days, when both refused to eat the same morning. I removed it from their manger, and gave them a very little corn meal, which they eat in the course of the day.

The same day they both commenced purging, and continued so for two days. I offered them no meal of any kind until the purging stopped. I then commenced with four quarts of the pigeon-weed meal to each per day, and continued at that and no more, and they are now fat—both being about the same fatness. Therefore I would put it down for a certainty, that cattle can be fatted on pigeon-weed meal, with from four to six quarts per day; but that eight quarts *must not be fed*.

Now these two cattle were in a lot that I fed myself, during the whole time, with the exception of the week just past.

ERADICATION OF PIGEON-WEED.—By the by, I believe I have found out an easy way of exterminating that pest of the wheat growing farmers of western New York, (pigeon-weed,) and that is by planting the ground with Indian corn two years in succession. It has succeeded on a 28 acre field of mine. But I have long known that a man had to follow up some experiments by more than one trial to make sure of the result. I am going to follow up this one, straight forward.

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* In that year, CHRISTOPHER MORGAN, senior, (father of our present Secretary of State,) made the following memorandum, which has been obligingly furnished by one of the family:

"February 27, 1832. The Cayuga Lake was frozen over on the 26th. Six persons crossed over from Aurora to the opposite side of the lake on foot. On the 27th. five persons chained across from the Stone Store House, and found the distance to be 268 chains and 36 links," *i. e.* equal to 3 miles and 113 rods. Previous to that time, some trigonometrical attempt had made it 4 miles and 80 rods!

† The late LARDNER VANUXEM.

SHELTER FOR MANURE.—I notice a great deal is now said and much written, about keeping barn-yard manure under cover. Now this is what I have been experimenting upon for over 20 years, and I am fully of the opinion, after many trials, manure is not any the better for being kept under cover, and I think decidedly worse, if it is to be immediately applied to potatoes or Indian corn.* I do really wish that some thorough, working, practical men would test it fairly and give their opinion through The Cultivator. I know that men of practice are seldom writers, and more seldom speakers in public meetings; but I would rather have the opinion of one thorough, experienced farmer, than the opinion of ten theorists. I know scientific men, or some of them say, what may answer my farm, may not answer my neighbor's a mile off; but barn-yard manure answers for all land that is dry, in all places and all countries I ever saw or read of; and the farmer can always have plenty of it if he manages right; but he must not feed his cattle and sheep at straw stacks through the winter, with nothing else. Would you believe that in this *famous* county of Seneca, you may see fine thrifty steers, in the fall, that ten bushels of corn meal and less than a ton of hay would make fit for the butcher, or for New York or any other market, turned to a stack of straw, or more often a *heap* of straw, without any other shelter, there to do the best they can. I have seen them eating a tunnel through the stack of straw; and when the spring thaws come, some have had both cattle and sheep smothered.

Still some of those farmers, lay up money. If they are penurious in feeding their cattle and sheep, they are generally penurious in other things, and if their cattle or sheep bring them little, they feed them nothing that they could sell, and what they get they *keep*.

There are farmers, and those who own good land, too, that turn all their cattle and sheep on the highway through summer, and some will even buy young cattle in spring and turn them on the highway through summer, and after harvest, give them a run on their stubbles until winter sets in; then turn them to the straw stack or heap. A great many sheep are kept in the same way.

I am well aware that the most of your correspondents give a flattering account of the improvement of the farming community. I firmly believe that there is a great improvement within the last ten years, but still a great many farmers go on as I have represented, and yet lay up money. If their wheat should only average them 12 or 16 bushels per acre, they raise it with their own labor, and like their stock it is almost all gain. If I happen to tell some of them that they should feed their sheep something better than straw, they will say, that their sheep will compare favorably with mine, yet some of those who formerly fed nothing but straw to their cattle and sheep, have changed their course, and now have as fine cows and sheep as any man has, and it would be much to the credit of our country were every farmer to do so. JOHN JOHNSTON, *near Geneva, Feb.* 12, 1851.

P. S.—I have not yet finished threshing my last crop of wheat, but know that it will average over thirty bushels per acre. I have now a little over fifty acres on the ground, that I expect a large crop from. With the exception of six or eight acres, it is thoroughly tile-drained, and otherwise in good condition.

Hussey's Reaping Machine.

EDS. CULTIVATOR.—I observe in a late number of your journal, a statement from Mr. McCORMICK, with regard to his reaping machine; also one from another person respecting my reaping and mowing machine, which seem to have been in response to an inquiry made in a previous number of your paper. As that inquiry did not come under my observation in proper season, I was deprived of the advantage of making a parallel statement. Believing, with others, that I was not fairly represented in that correspondence; as the statement made for me by your correspondent did not refer to machines made by myself, or to such as are made with the improvements of latter years, I wish to make a few remarks.

Without troubling you with arguments, I will confine myself to stating a few facts. My reaping machine has been in successful use fifteen years. The patented improvements of latter years have increased its value as a reaper, and made it a mowing machine. It has driven from the field east of the Alleghany mountains every other reaper; for this fact, I will refer to all the prominent planters in lower Virginia, and the Shenandoah Valley, and of every other place where other reapers have had time to become known. Another striking fact is this: hundreds of mechanics in the western states are now infringing on my present patent right, in getting up machines to go by other names, while infringments on the other inventions for reaping are scarcely known. I will not boast of making a very large number of machines; the extent of my business has heretofore been to fill orders.

Another fact is this: by recent improvements my reaper has become a mowing machine. James Clark, of Lasalle, Ill., in a published letter, says he has cut 400 acres of grass with one of my machines in the last harvest—200 of meadow and 200 of prairie. I will take the liberty also to refer to Edward J. Eno, of Berlin, Sangamon county, and to Saml. Thomas, of Green county, Illinois, and to John Cockey and John Merryman, of Baltimore county, Md., and could refer to hundreds of other farmers for its merits as a mowing machine.

As regards the cutting of lodged grain, I will refer to matter already published, the signatures of responsible and disinterested farmers, instead of making any statement of my own.

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* There may be some points in connexion with this subject, that our correspondent has overlooked. For instance, it is sometimes the case that manure kept under cover is over heated, and much of the valuable part burned out. To settle the question fairly, the sheltered manure should be kept sufficiently moist and cool to prevent waste. If all the circumstances were properly attended to, we cannot doubt that the result of the experiment would be in favor of the manure which was protected from the air and rains. EDS.

Morris Sleight, of Dupage county, Ill., says—"We went into a piece of Black Sea wheat, a part of which was nearly flat on the ground, and lying in all directions; I had no idea it could be cut by any machine, but to my astonishment, Mr. Hussey's machine cut it as free and easy as if it had been standing up."

Rev. C. D. Eltinge, of Kane county, Ill., says "Mr. Hussey's machine worked in wheat very badly lodged, where the ground was rough, yet it cut it all clean."

When farmers have failed to cut their lodged grain with my reapers, it has generally been owing to a want of practical experience with the right kind of machines. I am not satisfied that the merits of my reaper should be judged of, and its character established by the operation of any machine not built at my manufactory in Baltimore. Many reapers are passed off for "*Hussey's*," to my great damage in several parts of the country.

One of my reaping and mowing machines, made in Baltimore, is now on board the St. Lawrence, on its way to the World's Fair in London. Obed Hussey. *Baltimore. Feb.* 14, 1851.

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Not Giving Credit.

Eds. Cultivator—In your February number, you charge us with publishing a series of articles under the head of "Village Lectures," "as original," in the American Agriculturist, which "first appeared in the English Agricultural Gazette."

If you will please to turn to page 340 of our November number, for 1850, where we commenced the publication of these "Lectures," you will find the following prefatory remarks:

"We insert from the London Agricultural Gazette, the following and *succeeding*" [this last word was not originally italicised] "Lectures on Scientific and Practical Agriculture, which from the simplicity of the language in which they are expressed, and their general utility to the farmer, we trust will be acceptable to a large portion of our readers."

If the above does not give ample credit,—and that of a highly flattering kind—to the source from which we took these lectures, then we do not know what credit is. But you will doubtless add, that this is not enough, and that credit should should be attached to each succeeding number copied. In this we entirely agree; but as we do not read the proofs of such things, we did not observe this omission till the January number of our paper was published. We then directed credit to be given to the Agricultural Gazette, in all subsequent numbers, at the bottom of the article; and the reason it was not done in our February number was, that the person who superintends the matter of the Agriculturist, was taken ill, and it was then left to a third party who was ignorant of our directions. No one can be more scrupulous in giving credit than we are; and although our own publication has been *general plunder* for the agricultural press of the country for the past nine years, and the above English or London Agricultural Gazette—in whose favor you here volunteered championship—has occasionally been one of the number; still we do not believe any periodical in the United States, is less open to a charge of not giving credit than ours; and whenever this has been omitted, it was without the knowledge, and totally contrary to the wishes of the editors.

Yet the Cultivator itself is not guiltless of the charge it prefers against us. If you will turn to volume 5th, page 171, you will find a continuation of the article on the "Manufacture of Cheese," by Mr. Alonzo L. Fish, which is taken from the N. Y. State Ag. Soc. Transactions, and appears there in the Cultivator as *original*, and without the slightest intimation whatever of its being copied from another work.[*] We could specify several other articles published in the Cultivator, from time to time as original, which were copied from other sources, but we do not think this worth while, as we have no doubt it was inadvertently done, and at the time escaped the attention of the editors; who we are happy to say, are more exact in giving credit for articles which they republish from other sources, than any other conductors of the press with which we are acquainted; and we will moreover add, that the Cultivator, like the Agriculturist, is general plunder throughout the Union, to the great disgrace of the conductors of agricultural and other periodicals and papers, who habitually pilfer as unscrupulously as if the property were all their own. Editors of the American Agriculturist. *New York, Feb.* 6, 1851.

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"Wool and Gum.'

Eds. Cultivator—I noticed in the January number of your journal, an article under this head from a correspondent, suggested by your notice of sheep in Addison county, Vt.

In the breeding of sheep, I believe it is most advisable to pursue a medium course, in relation to the oily matter so natural to the wool of Merino sheep. I consider an excess or deficiency of this material, equally objectionable. There can much be said in favor of sheep that produce fleeces well supplied with oil of the right sort; but there seems to be no definite term to express the different kinds of oil, yolk or gum. I should choose sheep whose fleeces abound in what I should term transparent oil within the fleece, and flowing to the end of the staple, and there forming what might be called yolk, or gum, which by combining with dust, gives the surface of the wool a dark look. There can be no doubt that such oil and yolk, preserves the fleece from "dead ends," and the deleterious effects of stormy weather—that it greatly facilitates the growth of the wool, and much increases its strength, softness, and elasticity. And I believe there can be no doubt that manufacturers would prefer a fleece well supplied with the oil and yolk which I have described, after it was thoroughly washed, to a dry fleece with "dead ends," as they acknowledge that the wool from oily sheep, is manufactured with much less waste—is easier worked, and will make handsomer and more lasting cloth, than the wool of sheep quite destitute of oil. But there is another kind of gummy matter, quite different in its appearance and effects from the above. This may be observed in yellow, thick, pitchy particles within the fleece, and does not circulate freely to the end of the wool; consequently the fleece has a light colored surface with "dead ends;" and as the wool cannot be freed from this thick, adhesive gum by a common cold water wash, such fleeces will show a larger per cent of skrinkage in cleansing, than any others.

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[*] On turning to the article here referred to, we find it prefaced as follows: "(*Mr. Fish's Essay, concluded from page* 154)." On turning to the first part of the article, we find it introduced by the following words. "At the January meeting of the New-York State Agricultural, Society 1848, Mr. Alonzo L. Fish, of Litchfield, Herkimer county, received a premium of fifty dollars for an account of experiments made by him in the manufacture and management of cheese. Mr. F.'s valuable essay (as it may be called) is embodied in the elaborate report of the committee appointed by the society to examine the claims of competitors under this head, and will be found in the volume of *Transactions* for 1847, when published. We think the following extracts from Mr. Fish's remarks will be read with advantage," &c. Eds. Cult.

I dislike light colored Merinos, very much, and have never yet seen any with as fine and perfect wool as can be found in the best wooled varieties with a dark surface. I believe dark colored Merinos that are free from this thick, yellow gum within the fleece, are more highly appreciated by well informed wool-growers at the present time than formerly. I sell from 80 to 85 yearling bucks annually, and I find, that when other things are about evenly balanced, the best judges of sheep select those with a dark surface.

I send you samples of wool from my sheep that you may judge something of the character of the fleeces in regard to oil and yolk, as well as the complexion and fineness. I think I can show as even a flock of like number as there is in the country. You can judge of the uniformly fine quality of my wool from the fact that out of 1447 lbs. sorted at the White River Wool Depot, there were only nine pounds "No. 2," the remainder being classed in the three higher qualities.

The average weight of my last year's clip of wool, *exclusive* of any wethers or bucks' fleeces, except lambs, was 4 lbs. 6 oz. which brought me, through the agency of the Wool Depot, at the rate of $1.86 per fleece. The annual income of my flock by the sale of wool and surplus sheeep, (which included my bucks, wether lambs and my oldest and most objectionable ewes) was $8.17 per head.

I believe if wool-growers, whose sheep are not below a medium character, would select their most approved ewes and cross them with the very best bucks, with fine and heavy fleeces, they could, in a few years, obtain a flock that would average 4 lbs. or more, of clean washed wool that would sort as "fine" and "No. 1." Ebnr. Bridge. *Pomfret, Vt., Feb.* 1851.

Keeping Fowls—Value of their Manure.

At a late agricultural discussion in this city, Mr. Chester Moses, of Skaneateles, made some valuable remarks on poultry keeping. He stated that for several years past he had kept 600 to 700 fowls, and the last winter kept 900. His chief object is eggs, of which his fowls average about 100 each, annually. They are not confined, but are allowed to range at will. Their food is principally wheat screenings, with some corn, buckwheat, and animal offal. He is also particular to allow them plenty of oyster-shells, pounded, of which, especially during spring, or at the season when they lay most, they eat large quantities. The lime of the oyster-shells doubtless contributes to the formation of the shell of the egg, and perhaps assists, also, in the digestion of the food.

He keeps the Polish or Top-knot fowls, and the common country stock—prefers the former on account of their laying more steadily the first year, or two years—thinks there is not much difference in the black and spangled varieties of Top-knots. His general practice is not to keep fowls after the second year; as they do not lay so well after that age, they are regularly sold off, and the stock is kept up chiefly by purchase, though some chickens are raised; and it is only for the latter object that cocks are kept, Mr. M. being satisfied that they are of no benefit in the production of eggs for market.

Mr. Moses considers the manure of his fowls of much importance, and takes care that it is all saved and applied to his crops. Under the building in which the fowls roost, is a cellar, into which all the manure is put. In spring, a few weeks before planting time, the manure is worked over and mixed with plaster—sometimes with plaster and ashes in equal proportions—using enough of these articles to make the manure so dry as to pulverize thoroughly.

This domestic guano, of which Mr. M. sometimes has the quantity of 300 bushels in a season, produces a powerful effect on the growth of Indian corn. His mode of applying it is, to drop a handful in each hill, which is then covered half an inch or more with earth, in order to prevent the seed from coming in immediate contact with the manure, which experience has shown would prevent its germination. Mr. M. stated that he had tried this compost in comparison with good hog manure, by applying each to corn in the same field and on similar soil. On one part, half a shovel full of hog manure was put in a hill, and on the other part, a handful of the hen manure compost. The crop was best where the latter was used, and the succeeding crop, (which was oats,) showed the same result in favor of the hen manure.

On another occasion he manured ten acres with the hen manure, which produced sixty bushels of corn to the acre. On a part of this piece, he used the manure only on alternate rows, leaving the intermediate rows with no application. The ears were "mere nubbins" on the rows that had no manure. He planted pumpkins on a row that had no manure, and on another row that had the proportion given to the rest of the field. The row which had no manure, produced no pumpkins of any value; the other produced fifty-one fair sized, good pumpkins.

Mr. M. stated that his son was engaged with another person in the poultry trade, and that in the winter of 1849–50, they sent between twenty and thirty tons to New-York and Boston.

Increase of Chess.—Wm. Little, in his address before the Mahoning county (O.) Agricultural Society, remarks that the increase of chess from seed, is much more rapid than farmers are generally aware of. He says, "if the wheat crop is injured or destroyed, the chess plant, which, if surrounded by strong and healthy wheat plants, would make but a small and feeble growth, spreads itself far and wide, and assumes the place of its unfortunate rival. The result of one seed thus accidentally dropped would astonish one. I have myself counted 78 stalks, each stalk averaging 20 seeds, making about 1560 seeds from one single plant; multiply this all over the field, and it is not hard to tell where all the chess comes from."

NOTES FOR THE MONTH.

Award of Premiums.

It appears by our books, that the following gentlemen are entitled to the Premiums we offered for the largest lists of subscribers to The Cultivator for 1851, received prior to the 15th of March:

1.	A. Cary, Fort Plain, N. Y.,	213 subs.	$50
2.	F. H. Fessenden, Brattleboro, Vt.,	109	40
3.	L. W. Curtis, Madison, N. Y.,	86	30
4.	John H. Reid, Frederickton, N. B.,	62	20
5.	John J. Putnam, Amsterdam, N. Y.,	61	7.50
6.	H. Mills, Lowville, N. Y.,	61	7.50
7.	M. Davis, Jr., Lynchburg, Va.,	59	Each
8.	P. Steadman, Chicopee, Mass.,	51	
9.	A Cornell, Newtown, Pa.,	50	$5.00
10.	W. O. Buell, Perth, Can.,	50	
11.	O. F. Marshall, Wheeler, N. Y.,	49	
12.	Thos. M. Harris, Ritchie C. H. Va.,	46	
13.	James Wells, Johnstown, N. Y.,	46	
14.	George Clare, Schenectady, N. Y.	44	
15.	J. P. Mills, Galesville, N. Y.,	43	Each
16.	J. Miller, Schoharie, N. Y.,	41	
17.	W. L. Eaton, Nashua, N. H.,	41	
18.	S. C. Jackson, Minaville, N. Y.,	41	$3.00
19.	G. A. Hanchet, West Stockholm, N. Y.,	39	
20.	Jay Jackson, Chesterfield, N. H.,	39	
21.	W. Keese, Peru, N. Y.,	39	
22.	C. T. Dake, Kinsman, O.,	39	

All others who have sent us fifteen subscribers or more, with the pay, are entitled to a copy of Thomas' American Fruit Culturist, or any other dollar book they may select. [For list of Agricultural and Horticultural Books, see our last number, p. 120.]

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Acknowledgments.—Communications have been received since our last, from J. R. L., Deane, V. W. S., John Johnston, J. W. Gray, J. F. H., Obed Hussey, Francis Whiting, T. H. Collins, Henry Halsey, M. E. O., S. W. Thompson, Wm. P. Bedell, S., S. Van Denburgh, H. C. W., J. F. Gritman, Norton Case, G., A Subscriber, David Thomas, Prof. J. P. Norton, C. Reagles, Geo. Mansfield, Le Roy Mowry, One who intends to be a Farmer, O., J. T. C., W. O. Buel, S. L. Wattles, J. Cummings, H. Collins, A. T. James, Gurdon Evans, Wm. Bacon.

Books, Pamphlets, &c., have been received as follows: Annual Report of the Trustees of the Mass. Lunatic Hospital at Worcester, from the Superintendent, Dr. Geo. Chandler.——Transactions of the Essex (Mass.) Ag. Society for 1850, from Hon. J. W. Proctor, President of the Society.——Fourth Annual Report of the General Agent of the Board of National Popular Education, from Hon. Wm. Slade.——Report of the Ag. Committee of the Ho. of Rep. of Iowa, from Hon. M. W. Robinson.——Address before the Ontario Ag. Society, by Prof. Norton.——Annual Report of the Superintendent of the Onondaga Salt Springs, from Prof. Geo. H. Cook.——Scions of a Seedling apple and cherry, from Wilson Dennis, Cedar Grove, Pa.——Transactions of the Norfolk (Mass.) Ag. Society for 1850, from Hon. B. V. French.——Portrait (steel engraving) of the imported blood horse "Consternation," from the owner, J. B. Burnett, Esq., Syracuse.——Package of Seeds, from Hon. T. Ewbank, Com. Patent Office.

Live-stock Depot at Albany.—It may benefit many of our readers, to know that very extensive accommodations for cattle have been completed by Mr. Woolford, of this city. His stables, sheds and yards are commodious, and capable of affording ample room for three hundred head of fat cattle. His establishment is in Washington street, within a convenient distance of the railroads and river, and drovers with stock designed for New-York or Boston, will find this a good resting station, preparatory to a re-shipment at this place.

South-Down Mutton.—We acknowledge the reception of a splendid saddle of South-Down mutton, from Mr. J. McD. McIntyre, of this city. It was a part of one of the four carcasses spoken of in another place as having been exhibited in market on the 22d February. Having subjected this mutton to the best test in our power, we have no hesitation in pronouncing it of the very first quality—really delicious. Indeed we do not see how any meat could be superior to it in flavor and quality. Why should not more of our farmers supply their tables with such a luxury? It could be provided with as little cost as beef or pork, and, certainly, it only needs to be known, to be preferred to either. These sheep were reared on the sand-plain, between this city and Schenectady—land which a few years since was deemed of little value; and they acquired their fatness chiefly by grass, hay, and turneps—having been fed with grain only the past winter.

Fine Rabbits.—Messrs. Fra. Rotch and R. H. Van Rensselaer, of Morris, Otsego county, will please accept our thanks for specimens of their fancy rabbits. The specimens sent were designed for the table, and their destiny in that respect having been accomplished, we are able to pronounce them excellent. One of them was exhibited in market, on the 22d of February, at the stall of Mr. McQuade where it attracted much attention, being almost as remarkable for fatness as any of the "show cattle," or even the big bear which had been "fattened three years."

Cattle Poisoned by Lead.—A few years since, Mr. R. H. Van Rensselaer, of Morris, Otsego county, lost seven head of cattle, (mostly full blood short-horns,) whose death, it is believed, was caused by particles of lead taken into the stomach with their food. The hay on which they were fed, was all cut with Green's straw-cutter, which has a lead roller against which the knives cut. The action of the knives, constantly cuts away the lead, which falls with the fodder as it drops from the machine, and was taken up with it and fed to the stock. When the first animals died, the stomach was not examined; but while the two last were sick, it was suggested by a medical gentleman, that they might have been poisoned, and a *post mortem* examination showed that numerous particles of lead were attached to the inner coat of the first stomach, the organ being evidently inflamed from this cause. All the animals which died, were affected in a similar manner, and were probably diseased from the same cause. It may be said, in reference to this case, that no such consequences have been known to result from many other instances of the use of the straw-cutter mentioned. In explanation of this, Mr. V. R. states, that the fodder from his machine was fed very closely—that is, everything was daily swept from the floor, and given to the stock. In most other instances, probably, the finer portions of the fodder, with the dust, are left where the cutting is done, and the particles of lead, would, from their weight, be likely to remain with them.

Benefits of Railroads.—A correspondent at Berlin, Erie county, Ohio, writes—"We in Ohio look forward with hope amounting to expectation, that the time is not far distant when we shall be able to reach the markets of New York and Boston by means of railroad communication, at all times of the year. We shall then enjoy the benefit of that competition which stimulates the exertions of the seller, and gives satisfaction to the buyer. We have the elements of greatness among us—the skill and ability to produce agricultural articles equal in quality to any in the Union; all that is wanting is a market that will pay us. Every facility of transportation has a tendency to bring the distant near, and produce an equilibrium in advantages."

A Poultry Amateur.—We have before spoken of the beautiful collections of various kinds of fowls which have been exhibited by Mr. John Giles, of Providence, R. I., at the great poultry shows at Boston. In a late letter, Mr. G. informs us that he received by the steam ship Africa, a large addition to his former stock, among which is the famous Rouen duck. He says, "I have now over forty distinct and pure varieties of domestic and aquatic fowl, all of which I keep for my own amusement."

Morgan Horses for Washington County, N. Y.—We are informed that Le Roy Mowry, Esq., of Greenwhich, has lately purchased some fine Morgan stock; viz: a colt, foaled May 24th, 1849, purchased of William Arnold, Walpole, N. H., and a filly, foaled June 3d, 1848, purchased of Mr. Gates, of Walpole, (late one of the owners of *Gifford Morgan*, now dead.) Both these animals were by Gifford Morgan, and the filly, whose dam was by *Sherman Morgan*, is in foal to her sire. They are represented to possess the form, action, and other good qualities which distinguish the Morgans. Mr. Mowry informs us that he made some inquiries, when in New Hampshire, lately, in regard to the market value of geldings of this stock, when four or five years old, and found it was about $200, "while not a few have been sold as high as $500 or $600 each." This information may serve as an answer, in part, to many inquiries which we have received on this subject. Mr. Mowry deserves credit for the enterprise he has shown in bringing these animals to Washington county, where we think they will, if no accident befalls them, be of great public benefit.

Great Sales of Stock.—The sales of stock advertised in this number, by Messrs. Vail and Morris, are worthy the attention of those desirous of procuring animals of improved breeds. It will be seen that the sales of those gentlemen are so arranged that both may be attended without inconvenience—the one following very soon after the other. We presume these sales will attract many of the best stock-raisers from various parts of the country.

Wind-mill.—Mr. S. W. Thompson, of Pittstown, N. Y., wishes to obtain information as to the best plan of building a wind-mill, to be used for threshing grain, running a saw, &c. We have no knowledge of the one mentioned as having been patented by Israel Keys, of Putney, Vt. Will some of our correspondents tell us what is the best kind in use?

Drain-tiles.—A correspondent in Lucas county, Ohio, asks—"What would be the expense, upon a common brick-yard, of making drain-tiles?" Can any-one answer the question?

Cultivation of the Cranberry.—We have received a letter from Mr. F. B. Fancher, of Lansingburgh, enclosing some remarks from Mr. Sullivan Bates, of Bellingham, Mass., in regard to the cultivation of the cranberry. Mr. B. says the variety which he calls, the "Bell Cranberry" can be cultivated on upland, and that he knows of no other kind that can be naturalised to dry soil. He states that it is necessary that the soil should be quite poor, and that it is generally best to remove the sod or vegetable matter to reduce it to a proper state of sterility; but if the soil is so poor that grass and weeds do not grow on it, it may be plowed and harrowed and the plants set without any other preparation. The soil is marked in drills two to three feet apart, and the plants set six inches apart in the drill. They should be hoed the first season, and they will cover the ground in three years. He states the produce at 150 to 400 bushels to the acre. Mr. Fancher can supply plants.

Fat Cattle and Sheep.

The roan cattle, formerly owned by Mr. Edward Munson, of Sennett, Cayuga county, for which the first premium (in the class of stall-fed cattle) was awarded at the last State Fair, were brought to this city in February last, by Mr. Samuel McGraw of McGrawville, Cortland county, who purchased them several months since. They were sold to Messrs. P. & J. Fredenrich, who exhibited the beef at their stall in the Centre Market on the 22d of February. They were examined by many connoisseurs, both before and after they were slaughtered, and were deemed equal in fatness to any cattle that had ever been in our market. We learn from Mr. McG. that one of them was one-fourth, and the other three-fourths short-horn blood. The latter was the heaviest, and was an animal of fine symmetry, remarkable for the evenness and uniformity with which the frame was covered with flesh and fat. They would have been seven years old this spring. Their weight was as follows:

Live weight of the two,.............. 5,333 lbs.
Dead weight,—No. 1. quarters, 1,780 lbs.
tallow,.. 215
hide,.... 117
total,.............. 2,112 lbs.
No. 2. quarters, 1,674
tallow,.. 225
hide,.... 112
total,.............. 2,011 lbs.

Mr. McGraw also sold a pair of fine cattle, four years and ten months old, the quarters of which weighed 1,270 and 1,168 lbs.—hide and tallow not ascertained. These were slaughtered by J. Battersby, and exhibited at his stall, corner of North Pearl and Patroon streets. Mr. B. had also the carcasses of two fat cows, purchased of Mr. McNeil, of Schoharie county, the quarters of which weighed 934, and 856 lbs.

Mr. James McQuade exhibited at his stall in the Centre Market, the beef of a fine ox, five years and ten months old, fattened by Mr. Hoag, Duanesburgh. The total weight of beef, hide, and tallow, was 1,905 lbs.

Mr. Wm. Castle, of Centre Market, exhibited the carcasses of four excellent wether sheep, two years and nine months old, bred and fattened by Mr. J. McD. McIntyre, of this city. Three of the sheep were a cross of the South-Down and Cotswold, and the other was a full blood South-Down. The dressed weight of the cross-breds, (the heads and feet being off,) was 130, 125, 92 lbs.; that of the full blood South-Down 90 lbs.

They were all very handsome sheep, and of very light bone and offal in proportion to the weight of carcass.

Heavy Cow.—Hon. **Geo. Geddes**, of Onondaga county, recently slaughtered a cow, 11 years old, three-fourths short-horn and one-fourth Alderney breeds, which weighed, dressed, (quarters, hide and tallow,) 1,186 lbs. She had her first calf at the age of seventeen months, and has produced one every year since till 1849. She was dried of her milk twelve months before she was killed, and acquired her fatness principally by grass, having been fed on meal only three montns.

Fat Oxen.—A pair of superior fat oxen, belonging to **John H. Boyd**, Esq., of Whitehall, passed through this city about the first of March last. They were coming seven years old, and weighed alive, as we were informed, 4,460 lbs. They were small-boned, and of good form and quality. We were not informed as to the breed, but should suppose they were a mixture of short-horn, Devon, and common stock.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Bone Dust or Bone-Manure.

600 Barrels of this best of manures for sale by the single or hundred barrels at New-York prices, by

THOMAS COULSON, Jr.
April 1—1t.* 590 Bowery, Albany.

Fortune's New Yellow Climbing Rose.

THE subscriber has now for sale at the *Asylum Hill Nursery, Hartford, Ct.*, a fine stock of Fortune's Yellow Rose. Strong plants, on their own roots, at $2 each. Smaller plants at $1 each.

Also a good collection of hardy Climbing, hardy Perpetual, and Moss Roses, and Ornamental Shrubs. GEO. AFFLECK.

Hartford, Ct. April 11, 1851—1t.

FRUIT TREES FOR SALE.

THE subscriber invites the attention of Nurserymen and Fruit Growers to his large stock of Apple, Early Golden Apricot, Frost Gage, and Cherry Trees. Isabella Grapevines, and Quince Bushes—with a large and general assortment of FRUIT TREES. All of which will be sold very low. Catalogues sent to all applications. CHARLES DUBOIS.

Fishkill Landing, April 1—1t.

TOBACCO SEED

OF the most approved variety for northern cultivation, will be sent by mail or express, to any person sending the money, in post-paid letters, at $3.00 per pound, for any quantity equal to a ¼ of a pound, or at the rate of 25 cents per ounce for a less quantity.

Upper Middletown, Ct., April 1—1t. R. S. WARNER.

Farmers', Gardeners' and Planters' Store.

A. G. Munn.] **A. G. MUNN & CO.** [Wm. Garnett.

530 Main-Street, four doors below third, at Wallace and Lithgow's old stand, Louisville, Ky. All kinds of Garden, Flower, Field and Grass-Seeds, and every variety of Agricultural and Horticultural Implements, constantly on hand, wholesale and retail.

☞ Also agents for the different Nurseries in the vicinity. Orders from abroad promptly attended to.

☞ Cash paid for Flax Seed, Mustard Seed, &c.

Fresh Osage Orange Seed for sale.

1,000 Bushels Kentucky Blue Grass, 500 bushels Kentucky Hemp Seed, 100 bushels Kentucky Pumpkin Seed, for sale, all crop of 1850. A. G. MUNN & Co. Louisville, Ky. April 1—1t.

Fruit Trees—Special Notice.

THE proprietor is desirous of disposing of a large proportion of the *Fruit Trees* in his Nurseries at Hawthorn Grove, Dorchester, Mass., with a view to improvements on the grounds the coming season.

The collection of *Pears*, *Cherries*, *Plums*, and other *Fruit*, embraces almost every approved sort of American or Foreign origin extant, and is scarcely surpassed in excellence or extent of variety.

Special Cultivation has been bestowed on the *Pear*, and many thousands of thrifty vigorous trees, are now ready for transplanting.

Extra Size Trees, with fruit buds, either on the quince or pear stock, and such as will soon commence bearing, can be supplied at moderate prices.

Also all the new varieties of *Pears*, *Cherries*, *Plums*, *Raspberries*, *Currants*, *Strawberries* and other fruits, and at rates less than is generally charged for novelties.

Scions for exportation and the home trade, can be had from fruit bearing trees, thereby ensuring correctness of nomenclature.

Selections, where desired, founded on the experience of many years, will be made by the proprietor, and which will seldom fail to please the correspondent.

ADDRESS—"The Superintendent of the Nurseries at Hawthorn Grove, Dorchester, Mass.," to the care of the subscriber,

MARSHALL P. WILDER, No. 2 Pearl-st., Boston.

N. B.—Grove Hall Coaches leave No. 11 Franklin-st. four times each day. April 1—1t.

Isabella Grapevines for Sale.

THE subscriber has a few thousand ISABELLA and OTHER GRAPEVINES, which he will sell on very moderate terms. Nurserymen and others, who may wish them in large quantities, can be supplied with a few thousand annually, by ordering them a year in advance. We have steamboat navigation, and other facilities for transportation to almost every part of the United States, and those who order roots may rely on receiving them without delay.

East Haddam, Ct., April 1—1t. ASA M. HOLT.

ISABELLA GRAPEVINES,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over 12 years, has conferred on the vineyards at Croton Point, are offered to the public.

Those who purchase, will receive such instructions for four years, as will enable them to cultivate the Grape with entire success, (provided their localities are not too far north.) Dr. R. T. Underhill feels quite confident that he has so far meliorated the character and habits of the Grapevines in his vineyards and nurseries, by improved culture, pruning, &c., that they will generally ripen well, and produce good fruit, in most of the northern, and all the western, middle, and southern states.

From the experience of the past season, he is fully convinced that where his directions are strictly followed in planting the vineyard, and in its subsequent management, a good crop of Isabella Grapes may be ripened in a very unfavorable season. All communications, post-paid, addressed to R. T. UNDERHILL, M. D., Croton Point, Westchester Co., N. Y., will receive prompt attention.

April 1—1t.

DEVON BULL.

FOR sale, a full bred Devon Bull, 3 years old in July last, bred by H. N. Washbon, Otseso county, from the celebrated stock of Mr Patterson, Baltimore. A choice animal, and a good stock getter. Price $100. J. W. COLLINS.

Smyrna, Chenango Co., N. Y. April 1—2t.

CAUTION.

THE subscribers, patentees of **Wheeler's Patent Horse Powers**, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our patent, we hereby caution all persons that said Firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the purchaser to use such Power.

Messrs. **Wheeler, Melick & Co.**, of Albany, and their agents, are the only persons authorised to make or sell Wheeler's Patent Horse Powers; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles, at each end of the Power, the words

"Wheeler's Patent—Wheeler, Melick & Co., Makers, Albany, N. Y."

A due attention to this fact will enable Purchasers to avoid imposition and fraud.

No person or firm in Albany, except WHEELER, MELICK & Co., is authorised to make or sell said Horse Powers.

April 1. A. & W. C. WHEELER, Patentees.

The Morgan Horse, Young Gifford.

THIS fine Horse, of the genuine Morgan breed, will stand the coming season, at the stable of the subscriber, in Farmington, Ct., for the use of Mares. Young Gifford was bred in Walpole, N. H., and was got by Old Gifford Morgan, his dam a pure Morgan. He will be four years old in May next, and is one of the best specimens of this distinguished breed. The Morgans are so well known and admired throughout New-England, that it is unnecessary to repeat their merits.

TERMS—$5 dollars for a single service. $8 the season. $10 insurance. WM. L. COWLES.

Farmington, April, 1851—2t.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention.

CALVIN MORSE,
I. T. GRANT
April 1, 1851—3t.

Thorp, Smith & Hanchett,

Proprietors of the Syracuse Nurseries, Syracuse, N. Y.

CULTIVATORS of, and dealers in, all kinds of Fruit Trees, Ornamental Trees and Shrubs, Green-house Plants, Bulbous Roots, Seedlings, Hedge Plants, &c., offer for the Spring sales a very large stock of the best varieties of *Apple, Cherry and Peach Trees;* a choice selection of native and imported *Plum Trees*, and a splendid importation of *Pyramidal Pear Trees on Quince*, 5 to 7 feet high, 50 cents each, consisting of nearly one hundred of the most celebrated varieties, old and new. These trees have invariably given the most entire satisfaction, and are offered at a quite unusually low rate.

They have also for sale an extensive assortment of *Ornamental Trees, Shrubs, Vines, Green-house Plants, Evergreens and Plants for Bedding out*, among which are—

Deodar and Lebanon Cedars, 3 to 5 feet, price $2 each; Japan Cedars, Magnolias, Daphnes, Altheas, Honeysuckles, Dahlias. Roses of all classes, including *Fortune's China*, Phloxes, Petunias, Verbenas, Maurandias, Lophospermums. *Calestegia pupescens*, a new and beautiful climber, covered with a profusion of large double flowers, of a delicate rose color, from June till cold weather. Heliotropes, Geraniums, Salvias, Double Feverfews, Plumbagoes, Tree and Herbaceous Pæonies, Double Lichness, &c., &c., all of very superior quality and beauty.

☞ Persons favoring them with their orders, shall have no cause to complain of the quality of any articles sent them.

☞ Catalogues sent *gratis*, as usual, to all post-paying applicants.

N. B. T., S. & H., have formed a partnership under the firm of Thorp, Smith, Hanchett & Co., to take effect in May next, with Mr. A Fahnestock, a skillful, practiced and intellegent nurseryman and propagator, who will superintend the management of the Green-house department, which they design shall constitute henceforth, an important feature in their business. By this arrangement they become joint proprietors with him in the "Augusta" Rose, an acquisition to the Floral world which is destined to create a marked sensation. It will be sent out in the spring of 1852. April 1, 1851—1t.

SENECA LAKE HIGHLAND NURSERIES.

E. C. FROST, Proprietor, Catharine, Chemung County, N. Y.

FRUIT Trees of all kinds, *Ornamental Trees and Shrubs, Grape-vines, Hedge Plants*, Box for edging, *Strawberries, Dahlias, Green-house Plants, &c. &c.*, in large or small quantities. The Nursery and standard trees cover 40 acres.

The following varieties of Apples can be furnished:

The Wagener.—For this new variety the New-York State Agricultural Society awarded to Charles Lee, Esq., of Yates county, the place of its origin, the highest premium in 1847, and again in 1848; also procured a colored plate for a frontispiece to its published Transactions, and gave it a full description in part as follows: "*Texture*—Fine grained, crisp and juicy. *Flavor*—Rich, sprightly, vinous, sub-acid and delicious. *Season*—From October to May, and a prolific bearer." By referring to vol. 7th, page 60, of the Albany Cultivator, it will be seen that I have had the exclusive privilege of Mr. Lee's trees, and have taken scions from his, the original seedling tree, and also from others worked from it in the same neighborhood, so that those ordering will be sure of the genuine variety. Price of this variety 50 cents each, and scions furnished only in small quantities.

The Hawley or Douse.—For flavor, size and productiveness, this is believed to be the best fall apple known, either for dessert or market purposes. A description and outline can be seen in the Cultivator of April, 1847, from which we quote: "Of all the varieties of Apples which have lately been brought to notice, probably none is destined to become more and deservedly popular than the Hawley or Douse." Also in the Horticulturist of July, 1847; Hovey's Magazine of Dec. 1847, and the Genesee Farmer of May, 1848. The latter in describing it, adds—"The first time we saw it was at the State Fair at Auburn, in 1846, when it was exhibited by E. C. Frost, of Chemung county, as the Douse. His specimens were monstrous, and we well remember the commotion it created among the pomologists present, to all of whom it seemed unknown." Trees four years from the graft, 50 cents each. Scions by the dozen or hundred.

The Winter King, is a very showy and productive Apple, cultivated in this and Tompkins county, where it sells one shilling per bushel higher than that fine and well known variety, the Swaar. 25 cents.

Tompkins Apple.—Origin Tompkins county. An outline and description is given in the Horticulturist of February, 1848. Mr. Downing says—"A large, handsome, and productive autumn fruit, superior in flavor to the Porter. We commend it with confidence to the notice of amateurs, and collectors of good fruit." Season—October and November. 25 cents each.

In addition to the above four new varieties, among other standard sorts, are the following: Early Harvest, Large Sweet Bough, Summer Queen, Fall Pippin, Early Joe, Norton's Melon, Swaar, Baldwin, Northern Spy, Roxbury Russet, Ladies Sweeting, and Newtown Pippin. Scions—One or two dozen can be sent by mail with safety, to any part of the Union, and larger quantities by public conveyance.

Pears and Plums are not affected by the blight.

Eastern Fruit Growers can procure Peach Trees here, perfectly free from the *Yellows*, a disease to us unknown.

Trees carefully packed, and sent by public conveyance to any section of the United States and Canadas.

Being on the Chemung Railroad, which connects the New-York and Erie, with the Buffalo and Albany route at Elmira and Geneva, this location for railroad facilities, is surpassed by none.

Priced Catalogues furnished gratis to all post-paid applicants, containing an engraving and full description of the Wagener, and Hawley or Douse Apple.

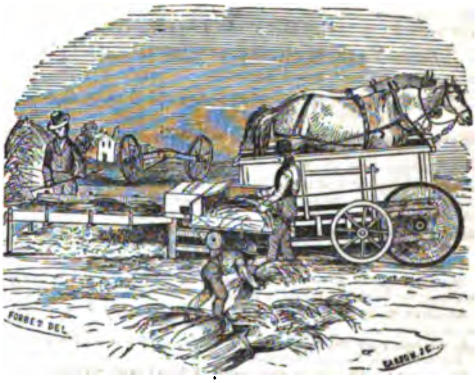
Packages amounting to $10 and over, passing to or through New-York, will go free to the purchaser to that city, by the New-York and Erie Railroad. April 1—1t E. C. FROST.

New-York State Agricultural Works.

AGRICULTURAL MACHINES & IMPLEMENTS.

Wheeler, Melick & Co.

CONTINUE their manufactory at the corner of Hamilton and Liberty Streets, ALBANY, where they are prepared to fill all orders with despatch. Orders for



Wheeler's Patent Railway Chain Horse Powers

and OVERSHOT THRESHERS and SEPARATORS, will receive their prompt attention.

☞ The large and increasing demand for these Machines has induced the Proprietors to erect a New and Spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the First Premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs, together with numerous County Exhibitions in the different States.

THE TWO HORSE MACHINE, with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

PRICE AT ALBANY:

For Two Horse	Machines,	$145 00
For one Horse	do,	$120 00

Machines will be shipped to any part of the United States or the Canadas, ☞ *and warranted to give satisfaction to the purchaser, or they may be returned within 00 days.*

The subscribers also manufacture and will furnish to order the most approved kinds of

Feed Cutters, Clover Hullers, Circular Saw Mills, &c. &c.

They will also furnish Horse Powers properly geared for driving Churns, elevating Grain, or other purposes to which horse power can be applied.

WHEELER, MELICK & CO.
Corner of Hamilton and Liberty-streets, Albany, N. Y.
April 1, 1851.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany

AUBURN NURSERY.

THE proprietor has now ready for sale TEN THOUSAND Apple Trees, 4 and 5 years old, from 7 to 9 feet high, comprising all the leading Standard varieties propagated by himself, and warranted genuine.

Also a good assortment of Pears on their own roots, and on Quince for Dwarfs. And Cherries, Peaches, Apricots, Gooseberries, Currants, Raspberries, Ornamental Trees, Shrubs, Roses, &c., &c.

Also a quantity of Buckthorn for Hedges. All the above articles can be furnished of good quality, and as reasonable as at any Nursery in the State. Catalogues sent to all post-paid applicants.

Auburn, April 1, 1851—1t.* S. S. GRAVES.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "THE LODI MANUFACTURING COMPANY, NEW-YORK," *post-paid.* April 1, 1851—3t.

EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Rail Road Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and in competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as follows:

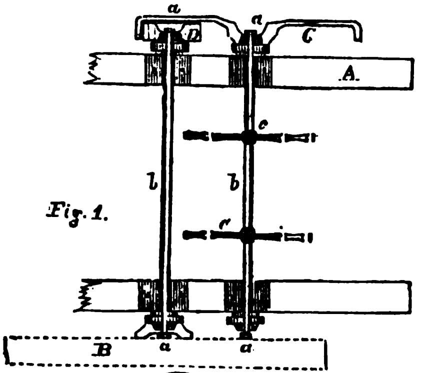


Fig. 1.

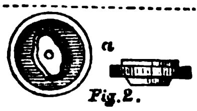


Fig. 2.

Fig. 1. represents the top view of the forward portion of the Power, (with the endless platform removed,) showing the side sills, A.A., which support the two large iron shafts, b.b. The coupling flanges, a.a.a.a., on the ends of the shafts, with nuts and screws for confining the wheels, &c. The CONVERGE wheel, C. confined on the end of the forward shaft, b. by means of ist concave hub, coupling screw and nut, a. The pinion, D. confined in like manner on the end of the other shaft, b. and so arranged as to work into the converge gear, C. The driving pulley, B. with concave hub, confined in like manner to the opposite end of the pinion shaft, b. on the opposite side of the Power; the two iron reels, c.c. confined on the forward shaft, inside the frame, near the sills.

Fig. 2, represents the side and edge view of the coupling flanges, a.a.a.a., or hub, which is fixed firmly and permanently to the ends of both shafts, b.b.

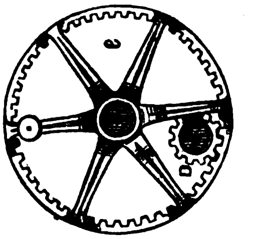


Fig. 3, represents the face view of the converge gear wheel, C and pinion, D. as working together when in use—which are confined on the shafts outside the frame of the power. One of the arms of the wheel has a plate projecting a little from its face, and calculated for receiving a wrist pin for driving a pitman, or connecting rod, often used, and necessary for propelling cross-cut saws, pumping water, churing butter, &c., where a vibratory motion is desired.

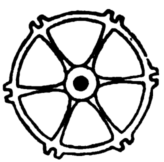


Fig. 4, represents the side view of one of the reels, c. two of which are confined upon the forward, shaft. The driving pulley, B. may be attached to either end of shafts, b.., as required for fast or slow motions.

The endless platform is composed of links connected by small shafts extending across the power, and through them far enough to receive small truck-wheels, which support the platform, and traverse on an iron track the whole circuit, except at the forward end of the power—when the small shafts are received into and supported by the forks of the reels, c. on the forward shaft, thereby giving it motion and power.

The diameter of the reels is such, that the ordinary walk of horses, or about two miles and a quarter per hour, give them about fifty-five revolutions per minute. The diameter of the pinion, D. being about one fourth the diameter of the converge gear, and consequently receive about two hundred and twenty motions per minute, and in the SAME DIRECTION—(which direction is found most convenient for all purposes, and indispensable for driving our Over Shot Threshing Machines, without crossing of bands.) The pinion working inside of the converge gear, allows more cogs to be in constant bearing, is stronger, and runs much lighter than spurr gearing, or rack and pinion. When arranged as in diagram, Fig 1, sufficient speed is obtained with either horses or oxen, (which last are often used) for threshing grain, ginning cotton, sawing wood, grinding feed, grating apples, &c. &c.

When less motion is desired for other purposes, the band pulley, B. may be attached to either end of the reel shaft, and receive but fifty-five revolutions; and when still slower motion is required, as for driving Elevators, Hay Presses, and Paddle Wheels for Ferry Boats, or propelling boats in the lumber and wood business, on many of our rivers and lakes, the pinion may be confined upon the reel shaft, and converge wheel upon the other, which serves to reduce the motion to about fourteen revolutions per minute, with increased power in proportion to decreased motion, the travel of horses being the same in all cases.

The advantages of these arrangements are numerous, and plainly seen—one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust, and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommand and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway Albany, N. Y.

BLOODGOOD NURSERY,

Flushing, L. I., near New-York.

KING & RIPLEY, proprietors, offer for sale their usual large and fine stock of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Grape Vines, Hedge Plants, Currant Bushes, Gooseberries, Raspberries, Strawberries, &c.

They can offer great inducements to persons wishing to start a Nursery or Fruit Orchard of any kind, or to ornament their grounds; and orders sent to them at 244 Pearl-street, New-York, will receive immediate attention, and the trees packed with great care for transportation. April 1—1t.

FRUIT AND SHADE TREES,

FOR sale at *Mount Ida Nursery, Troy, N. Y.*, a choice variety of FRUIT TREES, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds.

Currants, Gooseberries, Raspberries, Grapevines and Strawberries, of the choicest varieties.

Also a good variety of shade trees, consisting of Scotch Elm, English Sycamore, Linden, Horse Chestnut, Mountain Ash, Larch, Ash, Oak, &c.—Evergreen Privet and Buckthorn, for Hedges.

Rhubarb and Asparagus Plants, &c. Catalogues and other information can be had of the Nurseryman. JOSEPH CALDWELL.

Troy, April 1, 1851—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a year.

A. B. ALLEN & CO.,

March 1—tf. 189 and 191 Water street, New York.

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.

Also, *Eagle Center-Draught*, and all Plows in general use.

Corn Shellers, with single and double hoppers.

Straw Cutters—Hoveys's, Green's, Sinclair's and others.

Horse Powers—Badger's Improved, and Bogardus' Patents.

Fan Mills—Grant's Premium, and Clow's Rotary Screw.

Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

DAIRY SALT.

THE attention of Dairymen is particularly called to a very superior article of STEAM REFINED ROCK SALT, prepared expressly for the Dairy at the City Steam Mills, Albany.

The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by

C. N. BEMENT,

March 1—3t. 11 Hudson street, Albany.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan STALLION, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Good pasturage will be afforded at 3 shillings per week—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.

Bridport, Vt., March 1—4t.

FIELD AND GARDEN SEEDS.

THE subscribers are receiving and have on hand a choice lot of Field Seeds, composed in part of

Black Sea Spring Wheat, both red and white chaff
Italian and Hedge row Spring Wheat.
Spring Rye and Barley.
Broom Corn Seed, superior quality.
Clover, large, small and white Dutch.
Red Top, northern and southern.
Timothy and Orchard Grass.
Field and Garden Peas.

Also a choice assortment of fresh GARDEN SEEDS, warranted true to their name. The attention of Gardeners is particularly called to the assortment. All the above, with a full assortment of FARM and GARDEN IMPLEMENTS, are afforded on liberal terms at wholesale or retail, at the *Albany Agricultural Warehouse and Seed Store*, 369 and 371 Broadway, Albany, N. Y.

Catalogues gratis on application. EMERY & CO.

Mar. 1, 1851.

To Fruit Growers.

THE Subscriber cultivates at his various Nurseries, and has for sale at his residence, *Eustis-Street*, Roxbury, Mass, all the choice varieties of the PEAR, APPLE, PLUM, CHERRY, PEACH, and other Fruit Trees. *Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, &c., &c.* Also several thousand Pear Trees on the Quince—one, two, three, four, and five years from the bud. Particular at ention paid to the cultivation of the PEAR. Persons wishing extra sized trees, or trees on Quince stock in a bearing state, will please call at the Nurseries and make their own selection.

Buckthorn for Hedges—One, two and three years old. Ornamental Trees, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

Scions of all the varieties of the Pear of established reputation, and also of other fruits. The whole for sale at the market price.

SAMUEL WALKER,

Roxbury, March 1, 1851—2t. Roxbury, Mass.

Fruit Trees of Select Varieties,

For sale at the Nursery of J. J. THOMAS, *Macedon, Wayne co. N. Y.*

50,000 APPLE, Pear, Peach, Cherry, Plum and Apricot Trees nearly all of large size, and *all propagated from bearing or proved trees*, including mainly the best STANDARD sorts, with such *new varieties* as have proved decidedly excellent—all furnished at moderate prices, and carefully packed for canal or railway conveyance. Communications, post paid, to be directed to

J. J. THOMAS, Macedon, Wayne co., N. Y.

☞ The proprietor wishing to alter a part of his grounds, now occupied with a fine growth of several thousand apple trees, will furnish a good selection of best sorts, of full size, at prices varying with quality, size, &c., from *ten to fifteen dollars per hundred*, with only actual cost of packing added. Mar. 1—2t.

TO FRIUT GROWERS AND NURSERYMEN.

ELLWANGER & BARRY solicit the attention of all Tree Planters, Nurserymen and Dealers, to their present stock, which is much larger and better than they have ever before had the pleasure of offering. It embraces among other things in large quantities,

Standard Fruit Trees—of all sorts.

Dwarf and Pyramidal Fruit Trees—for Gardens.

Gooseberries, Strawberries, Raspberries, Currants, &c.—all the newest and best kinds.

Ornamental Trees, Shrubs, Roses, &c.—including all new, rare, and desirable articles.

Buckthorn, Osage Orange, and other Hedge plants.

Stocks of all sorts—for Nurseries.

Green-house, Border and Bedding Plants.

Double Dahlias, &c.—in immense quantities.

Wholesale prices furnished when desired.

A new edition of the General Descriptive Catalogue is nowr eady, and will be sent gratis to those who apply *post paid*.

Mount Hope Garden and Nurseries, Rochester, N. Y., March 1, 1851—2t.

Fruit and Ornamental Trees,

For sale at the Nursery of H. Snyder, Kinderhook, Col. Co. N. Y.

THE proprietor of this establishment offers for sale, the coming spring, his usual assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, VINES, ROSES, GREEN-HOUSE PLANTS, &c.

Most of the trees are of large, handsome and thrifty growth, and among them may be found many of the best sorts of Apples, Pears, Plums, Cherries, Peaches, &c., grown in this country.

The stock of Apples and Pears is finer than has been offered before at this establishment.

Also, Pears on Quince stocks—Cherries on Cerasus Mahaleq stocks—Apricots, Nectarines, Grape Vines, Gooseberries and Currants, at the lowest market prices.

Ornamental Trees can be furnished by the hundred, at very reasonable prices, and of various sizes, for ornamental grounds.

EVERGREENS.—The following can be furnished of various sizes: Norway Spruce, Balsam Fir, Arborvitea, Scotch Pine, Deodar Cedar, Cedar of Lebanon, Auricarias, Cryptomeria Japonica, Cupressus. Thurifera, &c.

PLANTS FOR HEDGES.—Privet, Buckthorn, English Hawthorn, Locust, &c.

Seedlings of the following kinds—Sugar Maple, English Sycamore Maple, Horse Chestnut, Black Walnut, White Ash, European Mountain Ash.

A large stock of Apple Seedlings, suitable for root-grafting, at the lowest rate.

Catalogues will be forwarded to all applicants. Feb. 1, 1851—3t.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. beg leave to call the attention of *Dealers* and *Planters* of trees, and the public in general, to their very large and complete stock of FRUIT AND ORNAMENTAL TREES, which they offer for sale the coming spring. The trees of these Nurseries are all grown on the premises, and propagated under the immediate supervision of Mr. SAUL, whose long connection with this establishment is some guarantee for the accuracy of the stock now offered for sale. It consists in part of over

20,000 Pear Trees, 5 to 8 feet high, and embracing all the leading Standard Varieties, as well as those recently introduced, of merit, either of American or Foreign origin.

20,000 Apple Trees, of *extra size*, 8 to 10 and 12 feet high, including every variety worthy of cultivation.

10,000 Plum Trees, 5 to 8 feet, of every known kind of reputation, as well as all the novelties of recent introduction.

10.000 Cherry Trees, 6 to 8 feet and over, among which will be found all the desirable and choice varieties.

A large stock of handsome, well grown trees, of Peach, Apricot, Nectarine and Quince, in every variety. Also,

Grapevines, Native and Foreign, Raspberries, Gooseberries and Currants, Strawberry plants and Esculent Roots, such as Asparagus, Rhubarb, Seakale, &c., of the most approved kinds.

Pear on Quince, Cherry on Mahaleb, and Apple on Paradise stocks—for Pyramids or Dwarfs for garden culture, and embraces all the kinds that succeed on those stocks.

Deciduous and Evergreen Ornamental Trees & Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailantus, Horse Chestnut, Catalpa. European and American Ash, Three Thorned Acacia, Kentucky Coffee Tree, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well all the as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Araucaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

Weeping Trees.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, Weeping Japanese Sophora, Weeping Elms, (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech. &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Fern and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, &c. Also a large collection of choice Roses, in great variety of Hybrid Perpetual, Hybrid China, Hybrid Province, Hybrid Damask, Bourbon, Tea, China, Noisette, and Prairie, and other Climbing Roses, for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn Osage Orange, and other Hedge plants.

The above will be sold on as liberal terms as similar stock can be purchased elsewhere. For further particulars we would again refer to priced Catalouge. A liberal discount will be made to persons who buy to sell again, and extensive planters on their own account.

Newburgh, March 1, 1851—2t.

Prince's

Linnæan Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & CO., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable Fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears. 50,000 trees can be supplied, of which 15,000 are of bearing age. on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be obtained elsewhere. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

A wholesale Catalogue will be sent to all Venders.

The transportation to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the impossibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. March 1, 1851—2.t

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The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50.000☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE.* of every description, against the combined risks of *Fire, Water. Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Fruit Scions for 1851.

THE subscriber will furnish Scions of the celebrated fruits of western New York, of the different varieties mentioned below:

Northern Spy.
Norton's Melon.
Early Joe.
Baldwin.
Ribston Pippin.
Red Canada.
Gravenstien.
Red Astrachan.
Lowel.
Porter.
Fameuse.
St. Lawrence.
Yellow Bell-flewor.
Swaar.
Westfield Seek-no-further.
Rambo.
Esopus Spitzenburgh.
Roxbury Russet.
Autumn Strawberry.
Green Sweeting.
Munon Sweeting.
Talman Sweeting.
Summer Rose.
Wagener.
Early Harvest.
Hawley or Dowse.

I will pack and send either by mail or Express at one dollar per hundred, orders post paid.

Virgalieu, Osband's Summer, Oswego Beurre, Onondaga or Swan's Orange, Pear Scions at 3s. per dozen.

N. B. In all cases where it is possible, I will send specimens of the Northern Spy apple. JAMES H. WATT.

Feb. 1—3t.

Agricultural Warehouse and Seed Store,

Quincy Hall, over the Market, Boston.

THE Proprietors having recently enlarged their Warehouse, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL and HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortment to be found in the United States, which are offered at low prices.

Of PLOWS—we have the greatest variety of kinds and sizes.

Improved Sod Plows, for flat furrows—improved Scotch Plows, for lapped furrows—improved Stubble Plows, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton, and Rice Plows.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others. Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes. Horse Powers, Threshing Machines, thermometer Churns, Robbins' patent Centrifugal Churn, Cylinder Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

Illustrated Catalogues sent gratis on application, post paid.

RUGGLES, NOURSE, MASON & CO.

Boston and Worcester, Mass., March 1, 1851—2t.

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Currants, including all the new sorts. Raspberries, Gooseberries in great variety, and Rhubarb, at $1.50 per dozen—$10 per 100.

Strawberries, in 20 fine varieties, mostly at $1 per 100. Burr's New Pine, $2, Iowa, $2, Jenney's Seedling, $1.50 per 100. Richardson's Seedlings, (fine) 50 cents per dozen.

English Walnut, Spanish Chestnut, Filberts and other nuts. Black English Mulberry, (the best,) Medlars, &c.

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Wiegela rosea,
Lonicera Ledebourii,
Chimonanthus fragrans
—— grandiflorus,
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Spirea prunifolia, fl. pl.
—— Lindleyana,
—— Douglassi,
—— Reevesii,
Ribes albida,
—— sanguinea, fl. pl.
Pyrus, double crimson.

Evergreen Shrubs, consisting of Arbutus, Andromeda, Box, Euonymus, Gaultheria, Holly, Laurel, Juniper, Ledum, Menzeizii, Rhododendron, 8 sorts, Vaccinium vitis idara, Irish Yews, Evergreen Oak, Mahonia aquifolium, (excellent.)

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Calestegia Pubescens.—This new and beautiful climber, introduced recently from China by Mr. Fortune, proves perfectly hardy in New-England, having stood *the winter of* 1850 *in the grounds here*, without any protection whatever. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers of a delicate rose color. It is very ornamental, planted in patches like the Verbenas, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of trees in a very picturesque manner. It is therefore particularly suited for Cemeteries and Public Gardens. Strong plants in pots, $1 per pair—$4 per dozen. Tubers for 100 plants, $5,—for 50 plants, $3, sent by mail or express at any time, with directions for propagation and culture.

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⁂ Priced lists sent post paid, on application. ☞ Carriage of all packages paid to Boston. Plymouth, Mass., March 1, 1851—tf.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

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GREAT SALE OF SUPERIOR THOROUGH *Bred Short-horn Cattle.*

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

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Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.

Guano, *Bone Dust*, *Poudrette*, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of FULL BRED SHORT-HORNS AND IMPROVED DAIRY STOCK, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the FIRST PRIZE as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, MAY, 1851. VOL. VIII.—No. 5.

Agricultural Schools.

Report of Massachusetts Commissioners.

The Legislature of Massachusetts, at its session of 1850, appointed a Commission for the purpose of considering the expediency of establishing an Agricultural School or Schools, in that state. President HITCHCOCK, of Amherst College, was one of the members of this board; and he, being in Europe at the time of his appointment, was requested to visit the institutions devoted to agricultural instruction in that quarter of the globe. The principal portion of the Report of the Commissioners, consists of the account given by President H. of his examinations of the Agricultural Schools of England, Ireland, Scotland, Germany, Switzerland, and France, with remarks and deductions from the facts obtained in the investigation.

Prest. HITCHCOCK has embodied a greater amount of valuable information on the subject of Agricultural Schools, than we have ever before met with, and for the important service he has thus rendered his countrymen, is eminently entitled to their lasting gratitude. He has given a comprehensive view of the European schools, the most celebrated of which he visited personally,—has pointed out their effects upon the agriculture of the countries and districts in which they are located,—with a summary, comprising an analysis of the various plans, showing their respective merits and defects,—and concludes with arguments demonstrating the necessity of establishing institutions for the improvement of agriculture in America, furnishing several simple and excellent outlines of plans.

Had we space, we should be glad to copy a large portion of the remarks to which we allude. We are obliged, however, to restrict ourselves to a few extracts, but would earnestly recommend an attentive and careful examination of Prest. HITCHCOCK's whole report, to all who wish to obtain a clear, practical, and common-sense view of the subject of agricultural education.

From Prest. H.'s summary of conclusions, we take the following:

VI. European Agricultural Schools have taught us some important lessons.

1. That these schools usually fail, if they do not receive efficient aid from the government.

2. That agricultural societies are not sufficient. These exist in all the countries above enumerated, I believe, and have done great good. But the conviction is very general there, that schools should be added to the societies; especially in countries where cultivation is a good deal deficient.

3. That theory is to be tested by practice; and such theories as will not sustain this test are to be rejected.

4. That these schools are doing very much to promote the progress of agriculture. This was the general testimony.

5. That to teach agritulture in the primary schools and academies is not sufficient. This does some good, but does not accomplish all that is desirable.

6. That agricultural professorships, in colleges and universities, are not sufficient. 1. Because lectures of this sort attract but few of the students of the colleges, who are looking forward to professional life. Such is certainly the case everywhere in Europe. 2. Because the two classes of students who would thus be brought together, would have too little sympathy to act in concert, and as equals, in the same institution. 3. Because, without such concert and sympathy, one or other of the classes of students would feel no pride in the institution; and without such an *esprit du corps* it could not prosper. 4. Because such professorships, unless numerous, would be entirely insufficient to accomplish the objects desired.

VIII. We learn that those agricultural institutions succeed best which are started and sustained by the mutual efforts and contributions of individuals, or societies, and of the government.

The schools in France, started by enterprising individuals, languished, and some of them failed, until the government lent an efficient hand. Very likely, the want of governmental patronage had something to do with the failure of the Hofwyl School, in Switzerland; and it struck me that the Agricultural College of England, at Cirencester, languishes for the same reason. It is said that in Wurtemberg, the schools succeed well, because the government started and sustains them alone. I know too little of their circumstances and condition to throw light on the subject. But sure I am, that, in this country, the mutual exertions of the government and the people will be essential to success; for this reason, if for no other, that here the people constitute the government: and if their representatives do not act in conformity to their wishes, their decisions will be reversed.

IX. We learn from European experience, that independent agricultural institutions are essential to accomplish the object which is aimed at.

1. Because the field is wide enough to require such establishments. The principles of agriculture are based upon a large part of the physical sciences; and it requires a good literary education to understand those sciences. No man can understand the principles of farming, who is not more or less acquainted with chemistry, anatomy, physiology, botany, mineralogy, geology, meteorology, and zoology; and then the practical part requires an extensive acquaintance with warious branches of mathematics and natural philosophy. Many important principles of agriculture can, indeed, be taught in the primary school or academy; but there should be, somewhere, institutions of a higher character, entirely devoted to a thorough instruction and investigation of the science of the subject.

2. Because it demands extensive collections of various kinds, in order to elucidate the principles of husbandry;

enough, indeed, to belong to any scientific institution, and too many to form a mere subordinate branch of some institution with a different object in view.

8. Because the number of instructors must be so large, that they could not conveniently form an adjunct to some other institution.

4. Because the interests of agriculture are large enough to demand an institution definitely consecrated to their promotion. No other art is so important, and, I may add, no other is so difficult to be successfully cultivated; and, therefore, every means possible should be employed to render it assistance.

X. Essentially the same reasons, and of greater force, exist for the establishment of Agricultural Schools in this country as in Europe.

1. It is the most ready and effectual mode of making farmers understand the principles on which good husbandry is founded.

Some have an idea that there are no such principles, and that the cultivation of the soil is a hap-hazard affair, and that guessing is as good a way as any, to secure good crops. I am aware that all the principles of managing land are not yet well settled, and that different circumstances often disappoint those who follow the best rules. But if there are no scientific principles on which husbandry is based, then one mode of farming is as good as another; a position which I am sure no reasonable man will take. And if one mode of tillage is better than another, there must be reasons for the difference, and those reasons are the very principles we are seeking after. Now it will be the leading object of agricultural schools to discover these principles, and to apply them in such a manner as to satisfy others that they are safe and valuable. Another object of such schools is, to detect and disprove, both theoretically and practically, any false principles and practices that may have been adopted by the community as true. The sons of farmers, who attend these schools, will learn to distinguish the true from the false principles, on this subject; and, on their return to the paternal roof, will communicate their knowledge, and apply it in practice.

In relation to the course to be pursued here, in reference to this subject, it is asked:—

What shall be the character of the Agricultural Schools, should any be established in Massachusetts? This difficult inquiry I would meet by a few suggestions. But after the survey that has now been taken of agricultural education in Europe, it cannot be expected that I should recommend, or that the community will be satisfied, with schools of an inferior class. Twenty, or even ten years ago, it might have answered to propose the introduction of agriculture into our primary schools, or as a department in our academies, or a professorship in our colleges. All this it may be well enough to do now, but something more must be done. So Europeans judge, and accordingly, as we have seen, they have started institutions with as ample a foundation, and as numerous a body of instructors, as we find in most of our American colleges. Nothing short of this, as it seems to me, will be sufficient for our country; nay, I fancy that at least one such superior institution is needed in each of our states. The work to be done is too great, the number of teachers is too many, and the amount of various collections too large, to attempt to attach an agricultural school to some other institution, and that too as only a subordinate branch. Even if agriculture is taught in our colleges, academies, and primary schools, it needs some one institution devoted entirely to the subject, to give effect and completeness to the subordinate teaching, and to carry it still farther; otherwise the agricultural knowledge will be as the literary would be, if the universities and colleges of the land were taken out of the way, and only the primary schools and academies remained.

But though our community, as I believe, especially the intelligent farmers, are prepared to appreciate the importance of such superior institutions, I fear but few are ready to devote the amount of funds requisite for putting such a seminary at once into full operation. Nay, none but those who have had experience know how large an amount of money it requires, with the strictest economy, to found and carry on successfully a large institution of learning. My hope is, however, that the government and the people will start this enterprise, if they do it at all, with a high standard in view, even though they cannot, till a considerable period, reach the height of their wishes. It seems to me that to aim much lower than the plan which follows, will be likely to make the whole subject, ere long, contemptible, or at least a failure.

OUTLINES OF A PLAN FOR AGRICULTURAL EDUCATION IN MASSACHUSETTS.

I. Let an Agricultural School or College of the superior class be established somewhere in the state, possessed of all the means (teachers, books, apparatus, specimens, farm, &c.) necessary to give a finished education in the principles and practice of agriculture. Such a school, it seems to me, should embrace the following particulars, at least:—

1. A school of instruction, by lectures and recitations, in the following branches:

a. Practical agriculture.

b. Chemistry, elementary and applied.

c. Natural history, especially zoology and botany.

d. Elementary and applied mineralogy and geology.

e. Anatomy and physiology, human and comparative

f. Veterinary medicine and surgery.

2. Collections of the following description:—

a. Models of agricultural instruments.

b. Of dried seeds.

c. Of dried grasses, grains, &c., entire.

d. Specimens planed, of useful kinds of wood.

e. A pomological collection, or models of the varieties of fruit.

f. Small collection of simple minerals and rocks for elementary instruction in mineralogy and geology.

g. An economic collection, embracing all the minerals, rocks, fossils, soils, marls, clays, &c., useful in the arts, exhibiting them in their various stages of preparation, with specimens of the finished articles, constituting what in Europe is called a museum of economic geology.

I saw three such collections in Europe; one at the School of Mines in Paris; one in London, the fruit of the Ordnance Survey; and one in Dublin, having the same origin; the two latter not yet opened to the public, but very choice and splendid collections. They must be very serviceable for all the arts.

h. Insects injurious to vegetation.

i. Stuffed specimens and drawings of the species and varieties of animals useful in agriculture.

k. A museum of human and comparative anatomy, including a manikin.

l. Chemical and philosophical apparatus.

m. A scientific and agricultural library.

Some of these collections are more important than others; but they would all be of service, and tend to give permanence to the institution. To procure and arrange them would require a long time, but they might be begun at once. I saw all of them, larger or smaller, in some of the agricultural schools of Europe, though nowhere at the same school. Indeed, many of those schools appeared to me to be quite deficient in collections, and I thought this one cause why they were in a decaying state. When literary institutions are called, as they often are, in the early part of their course, to pass through seasons of storm, good libraries, and ample apparatus, and collections, form one of the best of anchors to enable the vessel to outride the tempest.

8. A model and experimental farm of moderate size, and instruction in practical farming. I see no use in a large farm, as in general a small one, say of 100 or 200 acres, will embrace every important variety of soil, and can be more easily managed. It seemed to me that some of the European schools have farms so large as to be unwieldy.

4. Provision for instruction in Ancient and Modern languages. Such studies should not be required. But some might wish to get a little knowledge of Latin and Greek, in order to become better naturalists, and understand better the scientific terms in agriculture; and oth-

ers would wish to acquire French or German. Such instruction would be no cost to the state, as teachers might be found near at hand, most probably, in almost any part of the state, and it would render the school more attractive and respectable. It has been seen that such instruction is provided in some of the schools in Europe. It might be well, also, to provide similar instruction in the higher mathematics, as is done frequently in Europe.

5. Provision on the farm for the board of those students who are willing to devote their time to labor daily beyond what is required of all. For these extra labors, in my opinion, a compensation should be given, such as should at least meet the charge for board. This might enable many poor but worthy young men, to enjoy the benefit of the institution, who would otherwise be deprived of the privilege.

6. Number of Instructors Necessary.

1. A professor of horticulture, sylviculture, and rural legislation, who should be also chairman of the board of instructors, or president of the institution.
2. A professor of agriculture.
3. A professor of elementary and agricultural chemistry.
4. One of natural history and geology, who should be curator of the collections.
5. One of anatomy, physiology, and veterinary medicine, and surgery.
6. One of the mathematics of agriculture, such as farm accounts, irrigation, draining, surveying, leveling, construction of roads, bridges, &c.

This appears to me the smallest number of professors with which an institution could be respectable and useful, even at its commencement. The number is much less than it is at nearly all the higher agricultural seminaries in Europe. There it ranges from eight to twenty.

Besides the professors, there should be a superintendent of the farm, and of all practical operations of the establishment, who might also give some lectures, say on practical agriculture.

If one of the professors should be a clergyman, he might act as chaplain of the establishment.

7. The course of study should embrace two years. When creditably finished, the pupil should be entitled to an agricultural diploma or degree.

8. For admission, an examination should be required, in English grammar, geography, arithmetic, and Euclid's Elements of Geometry, at least the first five books. This may seem a high standard. It is higher than most of the schools in Europe. But the young men of Massachusetts, even the poorest, can easily come up to it, and thus make their subsequent course much more profitable. One great complaint in Europe is, that the pupils are unable, for want of early education, to understand the instruction.

9. The tuition should be as low as possible, certainly not higher than at the existing colleges of the state, and that is about $40. As soon as possible the instruction should be gratuitous.

10. Several scholarships, say as mnay as ten to begin with, equal at least to the tuition, should be founded by the State, to be given to the most diligent and successful pupils. Also, several prizes of a smaller amount should be offered.

This is the almost universal practice in Europe, and its operation is excellent.

11. Provided individuals shall offer ten acres of good land, to be improved as a model farm, by some academy, let the state give to that academy (not more than to one in each county,) at least $200 for instruction, and $50 for a library; provided said academy shall agree to cultivate the land, and provide for a department of agriculture: the aid from the state to be withdrawn, however, when the number of students in agriculture shall be less than ten.

12. Let a manual of agriculture be prepared by some competent person, or some existing manual be adopted, and introduced into the primary schools, if any children wish to study it. It might be well for the state to furnish the books gratis.

13. One object of these schools of a lower grade should be to prepare pupils to enter the central institution, in advanced standing, if fitted for it.

14. By the addition of a single professorship of technology to such an institution as has been described, and extending the collection of instruments to those of every art, this school might become a school of mines, as well as of commerce and manufactures, and thus afford an education to the son of the mechanic and merchant, as well as the farmer.

I do not, however, recommend that such an addition should be made at the outset, lest by aiming at too many objects, the whole be lost, as we have seen to have been the case sometimes in Europe.

15. Let the state appoint a Board and Secretary of Agriculture, who shall sustain the same relations to that interest and the schools connected with it, as the Board and Secretary of Education do to primary schools.

Two other outlines of plans are submitted, varying in several respects from the above—the principal object in the variation, being to lessen the expense in the outset. The second plan proposes that the school be "located so near some existing literary institution, that the pupils could have the benefit of its scientific lectures, and study its collections in natural history." This connection is only suggested as temporary, or to continue "until the state should be ready to endow a full corps of professors, and make the proper collections," &c.

The third plan proposes a Board of Agricultnre, as provided in the first, this Board to have the following, among other powers:

1. To appoint a secretary, one of whose duties for the present should be, to aid in the establishment of agricultural schools, and he should also be expected to give a course of lectures in the central school, should such a one be established, and his services be required.

2. To appoint a president of such central school or college, with a salary of $1,200, who should also be a professor in some department of the same; also to appoint a professor of agriculture in the same, with a salary of $1,000. Also, a superintendent of the farm, with a salary from $800 to $1,000.

3. These four officers, the president, secretary, professor of agriculture, and superintendent, should have power with the board, to select a site for such college, and purchase a farm containing from 100 to 200 acres, provided the following conditions could be realised:

1. If the school can be located near enough to some existing literary or scientific institution, for the pupils to attend its lectures, and study its collections of natural history, it being understood that admittance to those lectures and cabinets shall be gratuitous, or nearly so, and that the lectures embrace the following subjects: 1. Chemistry; 2. Botany; 3. Mineralogy: 4. Geology; 5. Zoology; 6. Anatomy, and physiology; 7. Natural philosophy.

2. If the friends of agricultural education in the place where the school is to be located, or in other places, shall raise a sum for the purchase of a farm, and sustaining the school, equal to the sum appropriated by the state, which sum shall not exceed $20,000, nor be less than $15,000; that is, the State shall not be called on to pay over $20,000 in any case to establish and carry the school through the first year.

Sketch of Putnam County, New-York.

Editors Cultivator—The county of Putnam in this state, is, I believe, but little known out of its own immediate vicinity. There are, perhaps, many reasons for this. One is, its size—being small, it does not hold so prominent a place among the other counties. It was originally a part of Dutchess, and was set off from it. By some chance or other, our Dutchess neighbors managed to keep the lion's share; but, as through their generosity, or from other causes, we became a separate *lit-*

the Republic, having our own court-house, &c., we ought not to complain.

A glance at the map will show the surface of our county considerably dotted with the usual signs, which on a map signify mountains; and a visit here would show the traveller that we have not been slandered in this respect. This is truly a mountainous county; but amid the mountains are fertile spots and tracts of country, that will equal any part of our state in productiveness. Of these portions I shall, at another time speak. My present purpose is simply to introduce you and your readers to Putnam county.

How often do we find people travelling abroad, to far distant lands and climes, for the purpose of viewing rich and varied scenery, while they are either ignorant of, or do not care to visit that which is almost within their grasp. Here, within 50 miles of the great metropolis of the United States, is a portion of country that, in the grandeur, wildness, and beauty of its scenery, will vie with the accounts we read of many parts of California and Mexico.

I have said this is a county of mountains, but it is a county of lakes, too. Wander with me in spirit, as I hope you may one day do in person, to the top of the mountain which is just one mile from my dwelling. We will suppose it a fine spring morning. Arrived at its summit, what do you behold! Turn your eyes southward and westward, and the hills, vallies, and rolling lands, and the beautiful Lake Mohegan of Westchester county, meet your eye. Further off, about six miles distant, you see the noble Hudson winding its way through the Highlands, whose shaggy brows are reflected in the deep water that laves their base. For 20 miles and more, you see that beautiful river, studded with white sails, with here and there a steamer gliding over its tranquil bosom. But, alas, the latter grace not the Hudson's waters as they did. The scream of the whistle, and the rattle of the cars, as the sound echoes through the mountain passes, and falls upon the ear in the silence of the morn, tells the requiem of the steamer, for the present, at least. And yet we mourn not that it is so. This is the utilitarian age, and before it, romance must fade away or be turned into reality. How short a time is it, comparatively speaking, since the first steamer ascended the Hudson's waters, and when the triumph over sloop navigation seemed apparent, no doubt many a man viewed them with a jealous eye, considering them as much an innovation as many a steam-boat owner now thinks the railroad on the Hudson's margin; but still, that river now teems with sloops, and so too, at no distant day, will it again teem with steamers. Truly, there is no "fighting against destiny." The spirit of the age is onward, and in its rapid march there will be found enough for all to do.

But pardon my digression. Turn your eye eastward, and some of the finest agricultural portion of this county is before you. In the distance, about nine miles, lies Lake Mahopac, at an elevation of 1,000 feet above the Hudson, (some estimate it at 1,500 feet.) This lake is three miles long, and about nine miles around it; its depth is great, equal to that of Ontario or Erie. Like most of the lakes in this section, it has an outlet but no inlet, and is formed from springs in the bottom. Its water is so pure and clear, that objects can be distinctly seen at a depth of 30 feet. It has several islands in it; one containing a number of acres. Mahopac, for some years past, has become quite a resort for New-Yorkers and others, seeking the cool and wholesome air of the country, during the hot months of summer.

Turn northward. What a field for the study and contemplation of the geologist lies before us. Mountains of conical shape rise in every direction. What have they been? How came they there? Were they once the craters of volcanoes, that poured forth their melted lava on every side, but which have been extinct for ages? Certain it is, that no ordinary commotion has been there, whether it has been caused by fire or water. Embosomed in those mountains are several lakes. One, lake Conaope, is little if any inferior to Mahopac in beauty. It is about two miles long and three-quarters of a mile wide. Far away in the distance, you see the mountains of Fishkill, and farther, far as the eye can reach, appear the majestic group of the Catskills, breaking upon the eye like the dark cloud on the horizon of a summer's twilight. Such is one view, among many, to be found here. But you may say, what has all this to do with agriculture? Directly, perhaps it has nothing; indirectly it has something.

Many a man, doubtless, has grown up from boyhood amid such scenes, and never once, while gazing on them, has felt his heart beat with emotion; but nothwithstanding this, move him from his mountains, and ought else seems tame to him. This attachment of man to a mountain land, when that land has been his birth-place, has been told over and over again in the pages of romance and of history. A good and wise Providence, dispenses his favors with an evener hand, than we are apt to think at first sight; and he has given to the mountain-land some advantages not generally met with elsewhere. Health, that first and greatest of blessings, is generally found there. Water, the purest and best, flows in rippling rills over the hill-sides and through the vallies. There is no stagnant pool or sluggish stream there to breed disease, which mars with its dread power the beautiful residences of the low-lands.

I have known men to wander to the valley of the Mississippi, but they came back again. I have known men to wander to the prairies of the far west, but they came back again; they sighed in secret for their blue hills and crystal streams. They sighed for the healthy air of their native land.

A stranger occupying, what would seem to the eye, a far more highly favored agricultural district, free from rocks and stone, would wonder how the men of the mountains obtained a livelihood; but it is a fact that while in many agricultural districts, farmers have, comparatively speaking, nothing to sell but once a year, these men always have something—a little wood, a load of bark, a few chickens, a tub of butter, a colt or a yoke of oxen; and by the by, the latter, for working purposes, are among the finest and best broken cattle that I ever saw. They are strong and hardy, and seem formed by nature to perform the work of the country of which they are natives.

Land is valued low in the mountains. Mountain farms, as they are called, can be bought at from five to ten dollars an acre; a man with small means even can buy 100 or 200 acres; this gives him quite a scope for raising stock, keeping a dairy, or fattening cattle; and as much of that land he buys for 10 dollars an acre, is really worth, for grazing or dairy purposes, as much as that where land is smoother and readily sells for 50 to 60 dollars per acre, he is much the gainer, as his outlay of capital is so small. Though the plowing is rather rough, the crops when once got in and well tended, yield abundantly. I have seen very fine crops of corn, oats, rye and buckwheat, grown on these farms, and I am inclined to think, that for the actual amount of capital invested, about as much money is made upon them as upon most other farms, when subjected to the ordinary mode of culture only.

Science has not done much yet for the dwellers in rough sections of country, but let not the occupants of those portions despair; the day must and will come, when every serious obstacle to the success of the agriculturist, will disappear before the inventive genius of our American mechanics. The tide of emigration may for a time set westward, but with the rapid increase of our population, many years will not roll over our heads before it will be found better and cheaper to stay where we are, and improve our soil, rough though it be, than to leave our homes for a strange land.

But Putnam county is not all mountains; there is many an oasis here, where the eye can rest with pleasure upon finely cultivated farms. Of some of these, I shall occasionally, if agreeable to you, give you sketches, as I know no better way to disseminate useful information about agriculture, than to give notes of the plans and operations of those who are engaged in that calling, and who look to it for a livelihood. My object will always be to find out those men who, with the smallest outlay, have reaped the greatest profit, and whose farms show the effect of skill and good management. Yours truly, H. C. W. *Putnam Valley, N. Y., Feb.* 22, 1851.

Progress of Agriculture.

Causes of Improvement.—No. 5.

Many of the improvements of which we have spoken in preceding numbers, are of a very important character. They have extended the sphere of agricultural knowledge, and enabled the farmer to pursue his occupation with increased advantages, and greater certainty of reward. In view of these results, who would willingly be thrown back to the point from which we have advanced within the last fifty years? or who can regard the cost of those improvements as worthy to be compared with the benefits, past and prospective, which they have produced?

We propose now to notice some of the causes which have occasioned the advance in agriculture to which we have called attention; and shall conclude with some suggestions in regard to other objects, to which efforts for further improvement should be directed.

The principal causes in producing the improvements to which we have alluded, have been Agricultural Societies and Agricultural Publications. Neither of these causes have existed a very long time. In our own country, we recollect but three agricultural societies which had their origin previous to the present century, viz: the Philadelphia Society, organized in 1785; the New-York "Society for the promotion of Agriculture, Arts and Manufactures," organized in 1791, (incorporated 1793,) and the Massachusetts Society in 1792. The increase of these associations was very slow, and they did not become common in any of the states, till they were encouraged by legislative patronage, which has not been generally extended till within the last twenty-five years.

It is to the stimulus exerted by agricultural societies through the medium of their exhibitions, that their influence in originating improvement has been chiefly felt. These exhibitions are of quite modern date. The first in the country was held at Pittsfield, Berkshire county, Mass., in the Autumn of 1810. The society in this county was organized the following winter. The next exhibition was that of the Massachusetts Society, and took place at Brighton in 1816. The latter was the commencement of a series of exhibitions, which from the liberal premiums offered by the Society, and the extensive competition which was thus created, were productive of great benefit to the country.* This Society was the first in America to institute plowing-matches and trials of plows, (the first having been held at Brighton in connection with the annual exhibition of 1817,) which were the means of effecting some of the most important improvements the plow has undergone. The Society imported various patterns of the English and Scotch plows, which were here tested in competition with the different kinds of American manufacture—a comparison which brought out the defects and excellencies of each, and suggested to our mechanics many useful ideas which they immediately carried into practice in the construction of their implements.

But this is not a solitary instance of the influence of agricultural societies in producing improvement; the same beneficial results have been experienced in most other departments of agriculture. The public exhibitions have brought together the various products of the farm,—the different species and varieties of live stock, the grains, vegetables, fruits, butter and cheese, as well as implements,—and afforded the opportunity of making proper and useful comparisons. Perfection in all these things is only comparative, and the farmer and mechanic can form no correct idea of the real merits and value of their animals or articles, but by a critical comparison with others which are deemed to possess excellence. The facilities which agricultural exhibitions have afforded in this respect have been very great, and they have in this way been the means of originating and disseminating improvements, the value of which are beyond estimation.

In bestowing this commendation upon agricultural societies, we are not insensible to the fact that they have sometimes been mismanaged—that their organization and administration are always more or less imperfect—but these objections do not affect the main point, which is, that they are capable of being made most important aids in the cause of improvement.

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* Among other enterprises which were early encouraged by this Society, was the offer of a premium of $500 for the introduction of the first five rams and ten ewes of the Merino breed. This was the means of many being imported.

But the most potent engine, probably, in the progress of agriculture, has been the **Press**. This has not only been the grand focus for the collection and dissemination of light, but by bringing mind in contact with mind, and giving direction and stimulus to mental effort, it has elicited *new* light, and brought to view truths of the highest value.

It is true, that publications on agriculture, of one description, are not new; volumes were written on the subject many years ago, and have been issued with increased frequency down to the present time. These have been highly useful as embodying the results of past experience, and furnishing guides for general practice. *Periodical* publications devoted to agriculture, are, however, of comparatively recent origin. Thirty years ago, there was only one in the United States, and it is but a few days since the enterprising founder of that one, (the late John S. Skinner, Esq.,) was laboring among us with unabated zeal. Scarcely twenty years have elapsed since the effects of these publications became visible in the country; yet in the brief period of their existence, they have doubtless contributed much of the power by which the improvements which mark the nineteenth century have been accomplished. Besides disseminating knowledge previously acquired, it is the special office of periodicals to record new facts, as they are from time to time developed; to suggest new ideas, and to discuss and elucidate unsettled questions. They furnish a medium through which farmers have a mutual interchange of views on the various points of husbandry, and subjects therewith connected. This interchange awakens and sustains a general interest in agricultural affairs. It arouses the mind of the farmer, stimulates him to investigate the principles of his calling, and to labor with greater energy. It has been well remarked in regard to these vehicles of communication, that " they inform us of the progress of our art in various districts; they refresh the memory, brighten the intellect, and improve the mind; they are vast stores of *facts*, from which many useful lessons may be learned by the studious farmer." They are, as another writer observes, " what the political sheet is to the politician; the commercial journals to the merchant—indispensible; and that farmer who does without at least one of these publications, must soon lag behind his fellows, in all desirable improvements; must soon be behind the intelligence of his age."

These publications, by their circulation through all parts of the country, have nearly revolutioned the public mind in regard to the relation in which agriculture stands to the other industrial interests. Farmers have been led to see that their vocation is not a menial drudgery, but that the cultivation of the earth is worthy to be dignified as a science. This elevation has infused into the agricultural class, a spirit of pride and satifaction, and given a strong impulse to the cause of improvement. So long as the rural population looked on themselves as occupying an inferior social position, little advance could be made in the "improvement of the soil or the mind." The eradication of this error was, therefore, the first and most essential step, and this was effected by inducing farmers to read and observe, by which they acquired that knowledge which imparts power and inspires confidence.

The Wheat Crop of New-York.

Professor Johnston, after his return from America, gave an address to the East-Berwickshire Farmers' Club, in which, among other remarkable expressions, he is reported to have said—" You have all heard of the famous wheat of Genesee, where the land is more fertile than in any part of Great Britain; and I learned there that they are laying the land down to grass, because they cannot afford to grow wheat." In the same report of this address, we find the following: " In New Brunswick, Vermont, New-Hampshire, Connecticut and *New-York*, [we italicise] *the growth of wheat has almost ceased*, and is now gradually receding westward."

It is hardly to be expected, that a foreigner, who spends but a few months in the country, and whose opportunities for observation are limited to a small portion of the territory, will be able to obtain a thorough and minute knowledge in reference to its agricultural or other resources; but an honest regard for truth would certainly prompt to the exercise of caution, in all statements of an important character. But making due allowance for all the circumstances, these expressions of Professor Johnston are less calculated to excite surprise, than those of a similar nature which have been made by some of our own countrymen, whose position gives to their opinions more or less weight with the public. Thus Prof. Mapes, in the *Working Farmer*, asserts that " the wheat crops of New-York are *less than half*, per acre, what they were thirty years ago." Mr. Skinner, of the *Plow, Loom and Anvil*, regards this assertion as coming from " very high authority," and adds in " confirmation" of it, that the Hon. Willoughby Newton, in a late address at Baltimore, stated that the wheat crop in " the Genesee valley has fallen in production from *twenty-five* to *ten* bushels per acre."

Now we regard these assertions as entirely unwarrantable, and notwithstanding the difficulty of proving a negative, we believe it can be shown that they have no real foundation. We think the history and results of wheat growing in this state, may be briefly stated as follows:

When the country was first settled, and while the virgin fertility of the soil remained, good crops of wheat were generally obtained at little expense; but from the imperfect and exhausting tillage which was practiced, the yield gradually declined till within a comparatively few years. This retrograde tendency has been arrested by improved cultivation, and the average yield, for several years, in the principal wheat growing districts, has been steadily increasing, and is now greater than it was when the soil was first cultivated.

We are confident that the testimony of those who are best acquainted with the subject, will support this view; and though we are not in possession of such extensive data as would be desirable, we can offer some evidence which bears directly on the point.

At a discussion on the subject of wheat culture, which took place at the rooms of the New-York State Agricultural Society, in 1850, Lieut. Gov. Patterson said—The wheat lands in the Genesee valley, when new, produced about *fifteen* bushels of wheat per acre. They were plowed shallow—the farmers had not generally sufficient strength of team to plow deep; now they plow much deeper than formerly, and obtain from *twenty-five to thirty* bushels per acre. In Livingston county, *thirty-five* bushels per acre, were obtained on some farms. His own wheat crops have sometimes been *forty* bushels per acre—has raised *thirty* bushels per acre, on sixty acres.

Mr. Lawrence, of Yates county, said the wheat crops in his neighborhood had been increased in yield by good cultivation. On his own farm, the yield, when he came into possession of it, was from *twelve* to *fifteen* bushels per acre. He had brought it up to *thirty* bushels per acre—raised *forty-four* bushels per acre on sixteen acres, in 1846. The crops in Yates county were generally good.

Mr. Cowles, of Onondaga county, said the oak and chestnut timbered land was generally considered best for wheat. Thirty years ago this kind of land was deemed good for nothing. It was formerly plowed about four inches deep, and did not produce well; now it is plowed from seven to ten inches deep, and the crops are good, and the land is growing better.

The same subject was alluded to at one of the agricultural discussions here during the past winter, and the fact that the average yield of wheat in this state was yearly increasing, was abundantly supported by the testimony of Hon. Mr. Geddes of Onondaga county, Judge Miller of Rochester, Mr. Pardee and Mr. Stacy, of Ontario county, and others. One of the speakers alluded to the fact, that according to the returns of wheat and flour received at Buffalo, Oswego, and tide water on the Hudson, in 1850, there must have been an increase of production in this state, over 1849, equivalent to 150,000 barrels of flour, and 1,900,000 bushels of wheat; and it was conceded by all, that after making reasonable allowance for the better season of 1850, over that of 1849, for the wheat crop, there would still remain a very great amount for 1850, over any previous year.

Another example in reference to the increase of the wheat crop, may be given in the county of Seneca, and this might, probably, be taken as an index to other wheat growing counties in the state, though the increase may not, in all cases, have been as great. According to the statistical returns of the state for 1845, the average yield of wheat in the county of Seneca, was *fifteen* bushels per acre.* In 1850, an agricultural survey of the county was made by John Delafield, Esq., now president of the New-York State Agricultural Society. In his report of that survey, to be published in the *Transactions*, the average yield of grain is set down as follows: wheat 20, barley 21, oats 38, rye 12, buckwheat 17, and Indian corn 32 bushels per acre.

Here we have an average gain in the wheat crop, of *five* bushels per acre, since 1845; and that this is not exaggerated, is evident from Mr. Delafield's remarks—"It is well known that the usual crops of a careful cultivator, are usually over 25 bushels of wheat per acre, 32 of barley, 45 of oats, 20 of rye, 20 of buckwheat, and 60 of Indian corn."

In view of this testimony, we think there cannot be a reasonable doubt that the yield of the wheat crop of the state of New-York is increasing, and that this increase is caused by the introduction of better modes of culture. By this result, also, we are encouraged to persevere in thorough and systematic husbandry, confidently anticipating still greater rewards for well-directed labor.

"Architecture of Country Houses."

An elaborate and able review of Mr. Downing's late work on the "Architecture of Country Houses," &c., from the pen of N. H. Eggleston, appears in the New-Englander. After a general consideration of the subject of "Domestic Architecture," the writer proceeds to notice the work referred to in the following terms:

> "This leads us to the consideration of a volume, the title of which is at the head of this article, and which, with its kindred volumes from the same author, has marked an era in the bibliographic history of our country. What further remarks we have to make in regard to the general subject, we shall throw into the form of a notice of this book. Mr. Downing has here given us a work which would much more appropriately appear as a volume of the 'Smithsonian Contributions to Knowledge' than that thin quarto of Robert Dale Owen, the chief value of which appears to be in its showing what book-makers can do with clean cut type and fine paper, and in giving, by means of its engravings, to those who are not likely to visit the city of Washington, some idea of a structure which has arisen there as a monument to the generous liberality of a foreigner. In the volume now before us, on the contrary, we have something of a different sort, a book not to be laid away upon the shelves of public libraries, or to be distributed according to the judgment or caprice of a publishing or executive committee, but to be had and studied by all, from Maine to Oregon, who are willing to pay a reasonable price for it. It is not either, as many perhaps would judge from its title, a book designed for the comparatively few who are about to engage in the work of building, but it is a book for the many, for all indeed, whether in city or country, who have a house to live in. It is an attempt to set forth the architectural principles, and, to no small extent, the laws of taste which are applicable to domestic life. Aside from its mere designs, which constitute by no means its chief value, its principles and suggestions are alike adapted to domestic life everywhere. The book is eminently a 'contribution to knowledge,' a contribution of just such knowledge as is wanted, and the general communication of which to the minds of our wide spread population would accomplish an inestimable service. We thank the author for this, his most recent work, and accept it gratefully as another gift to his countrymen from one whom they have reason to account a public benefactor. If he had lived in old Rome and done as important a service as he has done for us, the Senate would have honored him with a vote, "that he had deserved well of the Republic."
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> Mr. Downing has sent forth his book bearing the very modest title, "Country Houses," and those who have not made themselves acquainted with the volume will be likely to gather from its name that it has to do chiefly, if not exclusively, with the abodes of our mere farmers, and is occupied with suggestions in regard to the construction of farm-houses and barns, dairy-rooms and cattle stalls. This is far from being the case. Mr. Downing is one of those who accept the saying, "God made the country and made the town," and who consequently regards the open fields, in distinction from the narrow closes of the city, as the place for true living, and where Domestic Architecture is to have the theater of her labors and the full realization of her blessed accomplishments. Accordingly, when our author treats of Country Houses, he treats of all dwellings which have their location without the range of the inspectors of streets and sewers. From the humblest home of the cottager upon some scarcely known hill-side, to the baronial mansion that flanks the majestic Hudson, nor suffers by any want of keeping there, the book now under consideration has

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* The average for the state, by the returns of 1845, was fourteen bushels per acre.

something appropriate to every site and to every structure pertaining to the dwelling-place of man. Nor is the author's attention confined to the mere architecture of these various edifices. Beginning with the principles which should guide in the selection of a site, and embracing not only the general style of architecture, but the more particular arrangements, both of the grounds without, and the furniture within, his attention is directed to all that pertains to the material comforts of home.

No one, indeed, who is conversant with the previous writings of the author would expect anything less than such a work as this from him. He has made Rural Architecture and Landscape Gardening, or the proper disposal and embellishment of the surroundings of home, his own peculiar province; and where he leads, the many may follow without hesitation. His book is all the more valuable and trustworthy also, inasmuch as Mr. Downing is not a professional architect nor a practical builder, and so does not advertise his own wares or offer his services to the building public for hire. He simply comes forward, after much study and experience in regard to the subject of domestic life and dwelling-places, to present certain practical suggestions in regard to it. Having no theory to advance, and no particular order of architecture to defend or glorify, he comes as the general adviser of his fellow-men in regard to that which intimately concerns their comfort.

He begins his book with a preface assigning "Three excellent reasons why my country-men should have good houses." The first is, "Because a good house (and by this I mean a fitting, tasteful, and significant dwelling) is a powerful means of civilization." The second is, "Because the *individual home* has a great social value for a people." In assigning this reason, he makes the following declaration which is well worth consideration: "It is the solitude and freedom of the family home in the country which constantly preserves the purity of the nation, and invigorates its intellectual powers. The battle of life, carried on in cities, gives a sharper edge to the weapon of character, but its temper, is, for the most part, fixed amid those communings with nature and the family, where individuality takes its most natural and strongest development." The third reason offered is, "Because there is a moral influence in a country home—when, among an educated, truthful and refined people, it is an echo of their character—which is more powerful than any mere oral teachings of virtue and morality." Our author proceeds to remark farther, "That family, whose religion lies away from its threshold, will show but slender results from the best teachings, compared with another where the family hearth is made a central point of the Beautiful and the Good. And much of that feverish unrest and want of balance between the desire and the fulfillment of life, is calmed and adjusted by the pursuit of tastes which result in making a little world of the family home, where truthfulness, beauty and order have the largest dominion. The mere sentiment of home, with its thousand associations, has, like a strong anchor, saved many a man from shipwreck in the storms of life. For this reason, the condition of the family home—in this country where every man may have a home—should be raised, till it shall symbolize the best character and pursuits, and the dearest affections and enjoyments of social life."

Our readers will see from these liberal extracts from a preface of but moderate length, the drift and aim of the author without the necessity of further explanation on our part. Passing then at once to his subject, Mr. Downing enters upon an inquiry into "The real meaning of Architecture." In the prosecution of this, he discusses at some length the philosophy of the art, the relation which it has to beauty, utility and truth, and other points which naturally arise. Want of space alone induces us to refrain from giving our readers a specimen of the author's treatment of this part of his subject.

After this general disquisition, Mr. Downing divides the various styles of houses of which he proposes to treat more specifically, into three; Cottages, Farm Houses, and Villas. He defines a cottage to be "A dwelling of small size, intended for the occupation of a family, either wholly managing the household cares itself, or, at the most, with the assistance of one or two servants." Very properly, therefore, he insists that the cottage shall not ape the villa, but shall be kept within its just limits, and that it shall express the simple tastes and habits, and the limited means of the class by whom it is occupied. The disposition, not uncommon in our aspiring and sanguine countrymen, to go beyond their means in the construction of their dwellings, is here, as elsewhere throughout the volume before us, strongly and justly rebuked. Indeed, our author deserves no little credit for refusing, as he constantly does, to encourage even tasteful extravagancies. His principle is: first count the cost; then consider your ability; then obtain as much as possible of convenience or utility in your dwelling; then, and not till then, procure whatsoever of beauty and embellishment is warranted by your means, and will be in harmony with your tastes. Every discriminating person will admit without hesitation, that this is the proper principle. No one has a right, on the plea of style or taste, or any other plea, to live beyond his means. And if our mechanics and tradesmen just beginning life, as it is termed, or any in moderate, that is, ordinary circumstances, as to pecuniary ability, will consult Mr. Downing and those like him, they will find that very limited pecuniary resources are sufficient to secure a dwelling that will satisfy their necessities and minister to their comfort, as no pasteboard villa or gingerbread castle ever could. We cannot, of course, enter upon the criticism of particular designs in the work before us. But we should like to point the industrious day-laborer, who seeks with the setting sun his humble dwelling in the suburbs of some city, to the cottage plan, for instance, on the 129th page of this book, and show him how, with hardly the additional expense of a dollar, a little good taste would give him, with even his slender means, a house which for convenience, and simple beauty, might vie with any that wealth could erect, and which would be as bright as the evening star of his daily life of toil, to light him to the cheering and elevating comforts of a true home.

Our author very naturally has a chapter devoted to the consideration of "Materials and Modes of construction;" in which he insists upon the superior value and propriety of the more solid materials in the construction of houses of whatever class. And we can not but think that the time has come when our people should adopt a more solid material for building purposes than they have generally used hitherto. In a newly settled country, where timber is actually in the way of the most necessary agricultural labor, it is to be expected that the dwellings of a people will be constructed of this material. But with us this necessity, as it may almost be called, exists no longer, and it is well worth considering whether it is not best for us to give our dwellings a look of more substantial and enduring comfort, by the use of a more substantial material in their construction. The consideration of permanence is no unimportant element in the true idea of home. A true economy also, we think, would lead to the adoption of a more solid material than wood for the walls of our dwellings. But we cannot enlarge upon this point.

Following the author's remarks upon cottages, we find a chapter of "Miscellaneous Details," which, to any one who is about to undertake the work of building, though in ever so humble a style, is worth more than the cost of the book. What Mr. Downing has to say in regard to the other classes of dwellings—the farm-houses and the villas—it will not be important for us to consider at length after the notice we have already taken of his general scope.

In his chapters on the furnishing of houses, however, he has opened a new subject to general consideration. Treatises upon furniture and its arrangement, have not been uncommon on the other side of the Atlantic, but, so far as we know, this is the first attempt to set forth the matter in this country. It is no unimportant subject, however, nor is a treatise upon it undeserving our attention. On the contrary, we are sure that a perusal of our author's remarks would be of service to almost any house-keeper. As Mr. Downing has shown the man of slender means how he may have a tasteful cottage, architecturally considered, so here he shows him that he can furnish it properly and even attractively without any outlay of money beyond his ability. The book closes with some extended remarks upon "Warming and Ventilating;" and we know not where to find the same amount of valuable information upon these subjects in an equal space. The question of the best mode of warming dwellings is one which has great interest to the mass of our people. We may safely say in regard to our country as a whole, that, for at least six months of the year, we are under the necessity of resorting to artificial warmth, in order to make our dwellings comfortable. Of course, the question how this warmth shall be obtained, is one of prime importance to every housekeeper. Nor is it to most persons a question of less importance, considered economically, than it is in its bearings upon comfort. But this question is not simply that of obtaining the greatest amount of heat at the smallest cost. Many have seemed to consider it so, and their mistake has been a most injurious one. They have left out an element, and that a most important one, in the real question persented for solution. That question, a question set before us for solution by the Creator himself, is how to secure at the least cost the requisite warmth in consistency with the physiological laws of our being. Leaving out this latter part of the question, we have had men, making some pretensions even to a knowledge of the laws of natural philosophy, who have undertaken to warm human beings as they would bake biscuit in a tin oven, at a cost of only three cents worth of charcoal! *Air tight* stoves have been made, by which it is professed that two sticks of wood will be almost as serviceable as a quarter of a cord under the old arrangement of things. You have only to shut the damper after the fuel is once ignited, and have the windows carefully caulked so as to be air-tight too, and then you may sit and swell and toast, and grow delightfully brown, and all at the cost of only a few cents a day. Yes, and what is more, you may become air-tight yourself, also, getting bronchitis, asthma, an unpleasant stagnation of the blood in the lungs, and divers other equally agreeable affections! No wonder that hydropathy and all the other *pathies* are in demand, and that drug shops are multiplying.

But seriously, we are beginning to find that we may warm ourselves at the expense of health though at a saving of the pocket. Yet that saving is only for the present. Better far to pay a few dollars extra for fuel now than to be obliged to pay many extra dollars by-and-by for doctors, nurses, plasters and pills. Those open fire-places and Franklin stoves of former days, with the bright shining faces and the family drawn up around it, were a source of comfort and of real social profit too, which we already have but in memory, and which our children will know hardly otherwise than as a matter of history. The open grate, however, is still left us, and the furnace is now brought within the means of almost all. These, with a proper care, provide the requisite heat without violating the laws of life; but as for stoves, we feel little disposed to thank more than one or two of all the inventors of them. The fondness of our aged people for an open fire-place, where they can see the the glowing coals and the leaping flame, is a most amiable fondness, and we trust their sons will inherit it, and indulge it so long as any thing of our forests remains. At any rate, we hope they will abjure ovens and biscuit baking except in the kitchen. We commend Mr. Downing's concluding chapter as an admirable treatise upon the whole subject of warming and ventilation, and hope that it will not be without profit to the public that he has written as he has.

Our readers cannot fail to conclude, even from our desultory and imperfect notice of the book before us, that it is a valuable addition to the stock of reading, and promises to do much for the social welfare of those who may come in contact with it. Mr. Downing has here aimed to show how much of genuine comfort can be had within the compass of a very humble dwelling, as to cost and pretensions, such a dwelling as alone it is within the means of many to command. At the same time he has undertaken to set forth the principles of taste and truth which have their application to the most costly and elaborate structures. He has given advice suited to the circumstances and wants of almost all who are, or are likely to be, concerned with the important business of house building. And we feel bound to say that this advice is eminently sensible throughout. We are glad that such a man as Mr. Downing has been moved to take the subject of architecture in hand and bring it before the public in its practical relation to human comfort. There is in all his writings a simplicity, a regard for sterling truth and honesty, a love of the beautiful in nature, an earnest desire to promote the welfare of his fellow men, which entitle him to the regard of all, and make him a valuable counsellor. The book which he has now given us, the professional builders will of course possess. It is also set forth with such beauty of paper, type, and illustrations, as make a proper ornament of the parlor table, and fit it to claim a place on any book-shelf. We would suggest whether a cheaper edition would not get into the hands of a larger class of readers than the present one is likely to reach, and that class who most need and would be most benefited by its instructions. Meanwhile, we will conclude by expressing the hope that when Mr. Downing returns from his vist to Europe, enriched as he will be by the observation of its architectural beauty, he will give us a volume upon the proper structure of school houses and churches, a class of buildings in which we are more defective if possible than in our dwellings.

Cutting and Laying Tile Drains.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., March 26, 1851.

MESSRS. EDITORS—The subject of laying tile drains, is one upon which I have written before, both for the Cultivator and other agricultural publications, but there are some reasons why it seems best to enter upon it again at the present time, After all that has been spoken and written by myself and others in favor of draining, and of tiles, it is in my experience, still the fact, that a majority of the farmers in most districts are even yet unable to tell what a tile really is, much less to say what should be done with it in making a drain. In some quarters, however, enterprising men have introduced their manufacture, and as fast as their usefulness becomes known, the demand for them is increasing. I have received letters from numerous sources, inquiring as to the nature of tiles, where they are to be procured, how they were to be laid, &c., &c.

In my "Elements of Scientific Agriculture," I have devoted part of a chapter to a description of the various kinds of tiles used, the modes of laying them, the tools employed, and the systems of arrangement best adapted to different situations and classes of soil. Mr. Colman, in his "European Agriculture," has also dwelt upon this subject somewhat at length. These books, however, are not known to all, and do not, in themselves, furnish anything more than an outline of what may now be called the *science* of draining. I find that in practice, various unforeseen difficulties arise, which are not provided for in the books, and now propose to notice some points relative to the actual working details of drainage, without referring much to theory. In doing this, I am not unaware that I may possibly err in some of my practical views, but as they have been mostly drawn from observations of real experience, they probably will not lead any one very far astray. Bye-and-bye, when time has shown the success or failure of their respective systems, some of our practical drainers must give us the details of their management. While waiting for such developments, I will endeavor to answer a few of the inquiries that have been from time to time addressed to me.

1. The form of tile now preferred by the best foreign authorities, is the pipe, or simple cylinder, cut in lengths, and laid so as to join end to end. This form can be made cheaper than any other, being all in one piece; for the same reason it can be transported at smaller cost, and is less liable to breakage by handling. The common objection on the part of those who have never seen these tiles at work, is, that water will not find its way into such a close connected tube. I might reason upon this subject at length, but cannot now spare the space, and will simply assure all doubters, that the water does in some way get in, and that they cannot, even by any process of packing stiff clay around the tiles, manage to exclude it. This has been proved over and over again, in practice, and is no longer a point for argument.

2. A frequent subject of inquiry is, the nature of the tools proper for cutting the narrow ditch required for tiles. One great saving in their use, is this reduced width of the drain. It is customary to run one or two deep furrows with a heavy plow along the line of the drain, thus partially throwing out from eight to ten inches of the surface. The loose earth is then cleared away by a common spade, and the next ten or twelve inches taken out by a spade of the same shape, but narrower. Another spade still, six or seven inches wide at the top, but not more than two or three at the bottom, and quite long, takes out the lowest portion of the earth, leaving just about space for the tiles to lie, and for a man's foot to rest. A peculiar scoop-shaped hoe is frequently employed to finish the bottom of the drain smoothly, by cutting out small inequalities, and removing loose earth, which cannot so conveniently be cleared away by a spade. In coarse, hard gravel, or where large stones abound, such a perfectly formed ditch as I have described, cannot well be made. In these cases the cut must be more or less irregular, and in hard soils must be much wider than is absolutely necessary to receive the tile.

3. When the ditch is completed, the tiles are carefully laid on the bottom, end to end, care being taken that no wide vacancies occur, and that each piece is firmly in its place. In a very mellow and smooth soil, it is quite possible to cut the bottom so accurately to the size of tile employed, that the pieces can be laid and held in their places by the sides of the ditch. In the majority of cases, however, this cannot be done, and it is best to wedge them in as compactly as possible, by small stones placed at proper intervals along their sides. If this precaution be not taken, they are liable to be disturbed when the earth is thrown in to fill up. The end of a single tile thrust an inch out of its place would probably cause the stoppage of a long line, so that this point must be carefully attended to. Many practical drainers recommend laying a little piece of turf, grass side down, or a bunch of straw or shavings, over each joint, in order to prevent earth from sifting in. This, of course, is a safeguard, but in ordinary circumstances it is an unnecessary expenditure of labor. If the soil thrown back has become entirely dry and powdery, enough may possibly sift in to do some mischief; but if it, or at least the first few shovel fulls, be in an ordinary state of moisture, no such result need be apprehended, provided, always, that the joints are well made, and the line firmly secured in its place. A point which is often neglected, is the proper packing of the earth in filling. This should always be done with care, so as to avoid that washing of mud into the pipes, which would be likely to occur if the soil above them were left loose and porous.

4. If any curves are made in the drain, they should be of a gradual character. It would be better to blast or remove even a large rock, than to make an abrupt curve in a long drain. It is easy to see that the tiles would not join closely together on a sharply curved line, and even if cut to fit, the danger of stoppage would be greatly increased, owing to their greater liability to get out of place. Such curves, too, retard very seriously the flow of the current, and for this reason, the drain is less likely to clear itself of many small obstacles which may obtain entrance. Where the fall is gentle, this consideration becomes of especial consequence. It was said by Mr. Smith of Deanston, that tile drains might be made to discharge water, where the fall was but *one inch* in a mile. This, obviously, could only be done by the exercise of some engineering skill in leveling, &c. Where the fall is one foot in a mile, the work is not difficult, although, even then, it must be very nicely done, and the channel very even. The greatest difficulty on a gentle fall, is found in gravelly and stony soils; it requires some patience to straighten and smooth the bottom of a ditch in such a situation.

5. Some persons have supposed that machinery is used abroad for laying the tiles. This I have never seen, and am inclined to think that there is some mistake in the matter, for I cannot see that any advantage would result from the employment of machinery in such work. A good, careful man, when the ditch has been well cleaned out and levelved, can lay the tiles and secure them in their places with great facility. Where the fall is inconsiderable, slight inequalities in the bed of the ditch, and consequent bends of the tiles, do not seem to be injurious. On the sides of hills, I have seen them laid quite carelessly, precautions only being used to keep the ends where the tiles met, in close contact.

6. That as a general rule the drains should run straight down the slope, and in parallel lines, is now considered a fact beyond all question. Such drains discharge the water better than others, and dry the ground more completely. At the foot of the slope, they discharge into a main cross drain, made of large tiles, or in some cases of flag stones. Where the slope is very long, it is recommended to run a cross drain about half way from the top. This is to prevent the liability to choke, which exists in very long drains of small diameter.

7. A pipe of 1½ inches inside diameter, is quite sufficient for the small drains, where they have not to run more than two hundred feet; for greater distances a two inch interior diameter would be preferable. Farmers among us who commence draining with tiles, are apt to spend more money than is necessary, by purchasing larger sizes, under the impression that it is not safe to use the smaller ones. If, however, any person will calculate how much water may be discharged in twenty-four hours by a pipe of one inch bore, it will be perceived that but a few such pipes constantly running to the utmost

of their capacity, would make quite a brook. The three and four inch sizes commonly used, are in ordinary cases never taxed to more than half of their capacity.

8. It is apprehended by some farmers, that the tiles would soon become choked, if laid in that mixture of sand and clay which almost runs when saturated with water. I have never seen any precautions employed in such cases, and do not believe them to be necessary. The tile itself almost instantaneously dries that part of the wet soil with which it comes in immediate contact, to such an extent that it will no longer run; it becomes a porous medium through which the surplus from the still saturated portions filters clear into the drain.

9. In quicksands, and bogs, where the bottom is very soft and yielding, it has sometimes been found best to lay a foundation of broad refuse plank or boards, upon which the line of tiles is placed. The pieces being short and heavy, are otherwise liable to sink unevenly, and gradually work out of place. Drains have been laid in this way with eight or ten feet of soft bog beneath them, and have worked well, at least for some years.

Many of the tiles that I have seen in this country, have not been well baked, owing probably to inexperience in the makers. They should be burned hard, so as to ring when struck, and show a full red color. The soft pale-colored ones are apt to crumble away in the soil, and will not stand at all when exposed to the action of frost.

I have thus answered briefly, most of the questions that have been addressed to me by different individuals, and shall be happy to give any further explanations that may be desired, as far as I am able to furnish them. Yours truly, John P. Norton.

The Dairy Business.

Butter Making.

A valuable and interesting report on the manufacture of butter, was made last season to the Worcester County (Mass.) Agricultural Society, by John W. Lincoln, Esq. The first requisite laid down for the production of good butter, is *good pastures*—such as produce a sweet and plentiful herbage. White clover and the finer grasses are recommended, and it is important that there be good water at all times accessible to the cows.

Good cows are the second requisite. On this point it is observed—

"There is believed to be a much greater difference in the quality of cows for the butter dairy, than has generally been supposed. It is known that some cows yielding a larger quantity of milk—are of but little value for the making of butter. It appears by the certificates of competitors for the premiums offered by this Society in 1848, for milch cows, that the weight of milk required to make a pound of butter, varied from 17⅜ lbs. to 30½ lbs., and these cows, at least in the estimation of their owners, were considered extraordinary animals, as they were offered by them for premiums. The Chairman owns a cow, from less than six quarts of whose milk, one pound of butter was obtained, and has had others, which were considered good cows, the milk of which would not give a pound of butter to twelve quarts; and it is believed the latter quantity is better than is obtained from the average of the cows of this county. Every farmer should make trial of each of his cows separately, and if she is found not to give rich milk, she should be sold or exchanged with one who, for other purposes, may deem quantity of milk of more importance than the quality of it. For the purpose of testing the quality of the milk, a lactometer is a convenient and not an expensive instrument. Good milkers, both as regards quantity and quality, are frequently met with, and their valuable properties, it may reasonably be expected, will be transmitted to their descendants; calves from such mothers should never pass into the hands of the butchers. The quantity and quality of milk may be greatly improved by attention to the feeding of the cow; she is the machine in which the milk is manufactured, and those who wish an abundant supply of that, which is good, must see that the animal has a liberal supply of suitable materials from which to make it."

In regard to churns, it is mentioned that there is much difference in the quantity of butter which is produced by the various kinds, from the same quantity of cream. The results of some comparative trials with Galt's and Robbins' churns, are given, in which the former appeared to have considerably the advantage in this respect. A churn called "R. W. Davis' patent self-adjusting churn," is highly recommended. It is said to churn, gather, and work the butter without its being taken from the churn and without being touched by the hands. As a churn, it is said not to be inferior to any of the rotary churns, and being able to work the butter, it is thought to have a great advantage over all others known to the author of the report. The price is said to be $4,50 to $6,50, in proportion to size. They are made by Fairbanks & Stone, Westboro, Mass.

Rapidity of Churning is discouraged, as tending to produce an inferior quality of butter. On this point reference is made to Prof. Norton's *Elements of Scientific Agriculture*, as follows:

"Several churns have been exhibited lately, which will make butter in from three to ten minutes, and these are spoken of as important improvements. The most carefully conducted trials on this point, have shown that as the time was shortened, the butter grew poorer in quality, and this is consistent with reason. Such violent agitation as is effected in these churns, separates the butter, it is true, but the globules are not thoroughly deprived of the casein which covers them in the milk; there is consequently much cheesy matter mingled with the butter, which is ordinarily soft and pale, and does not keep well. Until the advocates of very short time in churning, can show that the butter made by their churns is equal in quality to that produced in the ordinary time, farmers had better beware how they change their method, lest the quality of their butter, and consequently the reputation of their dairy, be injured."

A brake, similar to those which were described in the Cultivator for 1846, pp. 187, 240, is recommended for working butter, instead of the hands. A wooden table is thought preferable to marble, to work the butter on.

The mode of manufacture practiced by Charles E. Miles, whose butter was pronouced of very superior quality, is in substance as follows: The cream is not allowed to change by standing, before it is churned. Crowell's Cylinder Thermometer Churn is used. After the churning is well done, the buttermilk is drawn from the churn, and cold water put therein, and the butter thoroughly dashed to extract the buttermilk. [It is proper to remark, that the chairman of the committee who made the report, objects to the use of water for this purpose, as "wholly unnecessary, and prejudicial to the butter."] The butter is then seasoned with with salt—about an ounce of salt to a pound of butter; it is then thoroughly worked upon a butter table, by the aid of a brake—not allowing the hand to come in contact with the butter. By the use of butter-paddles, it is then moulded into pound lumps, and fitted for the market.

Good salt is regarded as of much importance. It varies much in strength, and none but that which has been proved to be good, should be used.

Vessels for keeping. Stone pots are recommended for this purpose, in preference to wood. If wood firkins are used, they should be made in the most thorough manner, and be thoroughly soaked in strong brine before the butter is put into them.

A good milk-cellar is thought of great importance.

> "It should be cool, having windows to allow a free circulation of air. To prevent the admission of the rays of the sun by the windows, and thereby render temperature in the cellar less cool, it would be well to have blinds secured with hinges to the building at the upper side of the blind, that it may be turned up against the building and buttoned there when not in use, and when wanted let down to a horizontal position, where it will be retained by resting on stakes at its extreme corner, in which situation it will screen the cellar, and at the same time allow a free circulation of air. The milk vessels should not be allowed to stand on the bottom of the cellar, but should be placed on shelves suspended from the top in such manner that the milk may have the benefit of the pure air. Care should be taken that no milk be spilt, or any thing allowed to be therein that may produce any unpleasant smell, which will be sure to taint the milk and thereby injure the butter."

Lastly, *a good dairy-woman* is considered of more importance than all.

"On her skill and good management frequently depends the question whether the farmer is to obtain the highest market price, or a sum insufficient to pay for the labor bestowed in making the butter. The most perfect cleanliness must be observed in all the stages of its manufacture. The pan and pails, should be frequently washed, scalded, and sunned, and all the utensils kept perfectly sweet."

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Skim-Milk---Butter from 16 Cows.

EDITORS CULTIVATOR—In estimating the value of the productions of a butter dairy, the buttermilk and skimmed milk are items of much importance. But few dairymen, perhaps, have much knowledge, or even very definite ideas, of the actual value of these articles, as they are generally mixed with other food before they are given to hogs and calves. From my manner of feeding my skimmed milk during the past season, I have been able to make a very correct estimate of its value. I milked sixteen cows.

When I commenced feeding sour milk last spring, I had one hog worth,.........	$4 00
I then bought a pig for,......................	2 00
June 1st, bought two pigs at $1.12½...........	2 25
June 1st, bought one hog,.....................	6 00
I fed these hogs in the fall 16 bushels ears of corn ground with cob, worth 25 cent per bushel,	4 00
	$18 25

which was all the grain they had of any kind.

The hogs were confined to the pen all summer, consequently there was no expense for pasture.

When butchered, they weighed 1,300 lbs. at 5c. per pound,..................................	$65 00
I also raised nine calves, entirely on skimmed milk and butter-milk, which were worth $4.00 each, when weaned, at about four months old,.	86 00
	$101 00
Deduct value of hogs, and grain fed,...........	18 25
Value of sour milk from 16 cows,..............	82 75

The value of the sour milk from each cow it will be seen is a little over $5.00.

The 16 cows made during the same season 3,200 lbs of butter—two hundred pounds each—which shows that sufficient milk to make one hundred pounds of butter, is worth $2.50, after the butter is all taken out. SLUMAN L. WATTLES. *Sidney Center, Delaware county, N. Y., March* 6, 1851.

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Large Yields of Butter.

The Windsor (Vt.) *Journal* gives some remarkable yields of butter, as follows: DANIEL RITTER, of Weston, made and sold the past season, 479½ lbs. of butter from two cows, in addition to what was used by his family of two persons. This is within a fraction of 240 lbs. from each cow. JOHN CAMERON, of Rygate, made from five cows, 1090 lbs. butter, and over 200 lbs. cheese, or, exclusive of cheese, 218 lbs. butter from each cow. JOHN G. CLARK, of Tunbridge, states that he made, last season, from one cow, "besides using cream and milk for a family of six persons," 255¼ lbs. butter.

The Veterinary Department.

Cure of Wens in Cattle.

In answer to the inquiry of Mr. TODD, in our March number, respecting the cure of wens, we have received several letters.

J. CUMMINGS, Huntington, Ct., describes three kinds of wens. The first he calls a "bone wen," and thinks it always appears on the jaw. He says—"it will sometimes eat holes through the jaw in four months; but may remain a year or more before doing much injury. There is no cure for this wen. There is no better way than to begin to feed the animal as high as it will bear as soon as the wen makes its appearance, and let the butcher take the animal as soon as it is fat enough." The "flesh wen," he says is easily cured. He directs that it be cut out when it has reached the size of a hen's egg. This kind never adheres to the bone. He states that he has taken out six at a time from an ox five years old—the largest the size of a goose's egg. The third which he describes, forms near the bone, but never breaks of itself, owing to the thickness of the flesh and skin over it. He directs that it be opened on the lower side, so that the matter may readily discharge from it. He says he has known this kind to discharge for a month—the matter having the appearance of a rotten egg, and very offensive to the smell. It is recommended to rub tar round the opening, in warm weather, to keep off flies.

H. COLLINS, of Berkshire, Tioga county, writes—"In reference to wens on *jaws* of cattle, I will hazard the assertion that there is seldom, if ever, a cure effected. The cause, I think, in all such cases, is a bruise on the jaw, or defective teeth, ulcerating the jaw-bone and creating the tumor called wen. I came to this conclusion years ago, from slaughtering cattle effected in this way; from examining the mouths of those and others I have known, I am confident that in every case like the one described by Mr. Todd, there was defective teeth against the tumor. To extract the defective teeth, when the tumor is first discovered, may, perhaps, effect a cure, yet I think it doubtful."

Cure for Scratches in Horses.

A subscriber in Virginia sends us the following recipe, the efficacy of which he says he has proved:

$\left.\begin{array}{l}\text{1 lb. copperas,}\\ \text{1 oz. blue vitrol,}\end{array}\right\}$ pulverized.

8 pints good vinegar,

½ pint spirits of turpentine.

Mix thoroughly in a bottle, and it is fit for use. Apply it with a swab.

Foot-rot in Sheep.

There are various modes of treating this disease, but we know of none more simple and effectual than an application of blue vitrol. R. Herrick, of Essex, Vt., describes his mode of treatment in the Boston Cultivator, as follows:

"For one hundred sheep, from 2 to 2½ lbs. oil of vitriol, 1 lb. blue vitriol, pulverized, 1 lb. burnt alum, dissolved in four quarts of soft water. But the main thing is yet to come. *The hoof must be cleaned and pared;* cut to the bottom of the sore, but be careful not to draw blood, for that will prevent seeing the diseased part. Clean and pare till the hoof is white all over; then dip it into the above preparation. Repeat the paring and dipping once in ten or twelve days, till all are sound. Three to five times will ordinarily effect a cure. The foot rot is much more easily cured in cold than in warm weather."

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Lime for the Curculio.

Much having been said in favor of lime as a remedy for the curculio, and as the time is approaching for its yearly assault on young fruit, the knowledge of past experiments becomes desirable. A near neighbor,—who is a distinguished fruit raiser,—tried lime in nearly all imaginable ways last year, and with the following results.

Nectarines, plums, and apricots, were thoroughly syringed with thin lime wash; and as each successive rain and heavy dew carried it off from the smooth surface of the young fruit, it was re-applied as often as necessary. Special attention was given to the nectarines, which for six years of blossoming had yielded no crop; and to be still more secure against this, the lime was applied carefully with a brush to each young nectarine. About three days in the aggregate were spent in this way; and the result was, that the full number of six entire specimens of the nectarine were saved from destruction out of the whole orchard. But on further inquiry it appeared that these six all grew on a tree under which a young calf was kept confined during the season of operation; and to whose presence, chiefly, these specimens owed their escape.

The lime was believed to have a repelling influence, and some hopes were at first entertained of its efficacy; but it was soon discovered that the coating was disregarded, and the eggs were thrust through it into the green pulp. The whole trees with their entire crop of leaves whitened with lime, did not present a very ornamental appearance.

The application of lime appears to have been elsewhere in some cases quite successful—it becomes a subject for inquiry whether any collateral influences assisted it; whether the favorable result was not owing to something else, and was erroneously ascribed to the lime.

Protecting Half-Hardy Plants.

[Extract of a letter from David Thomas, dated 3 mo. 1, 1851.]

Evergreens are believed to afford a better protection to half-hardy plants than dry vegetable matter; and when thickly applied to shrubs and young trees, and banded, succeed remarkably well. But in this climate it is dangerous to remove the covering much before the close of the 4th month. Unless the plants be making vigorous and etiolated shoots, (as the Greville rose is apt to do) it will be better to let every thing remain till the danger from even severe white frost is over and past.

A fine young tree of the Pride of India (*Melia azedarach*) 4 or 5 feet high, I once thoroughly and thickly encased with hemlock boughs; and though I have now no hope that a plant so decidedly southern will ever endure our winters without the most ample protection, yet when I removed the bandages early in spring, there were no traces of damage from the cold. A warm spell about the middle of 4th month however, which tempted me to trust it, was succeeded by severe weather, and it perished. The sun had been allowed to shine on its frozen limbs, and the rough winds to chafe them. I have never repeated the experiment.

For low evergreen plants, such as the Auricula or Primrose, a cabbage leaf answers completely; and nothing can be more conveniently procured. * * * *

When walking in the garden after the snow went off, I was pleased to observe how slight a covering was sufficient to protect half-hardy shrubs. Late in autumn, I had *laid* the Chromatella, Souvenir de Malmaison, and Solfatare flat on the ground, covering them but slightly, yet sufficiently to prevent their radiating heat to the open sky; and there they repose, uninjured by more than 30° of frost. Without this intervention, as a correspondent remarked to me in a letter, "they would have died half a dozen deaths."

Utility of the Cultivation of Flowers.

The chaplain of the Utica Asylum for the Insane, writes, "The Institution with which I am connected is flourishing. It is mournful to see so many persons bereft, in different degrees, of reason; and the more especially when we consider that very few of them have become so by the soverign providence of God; and that in the large proportion of cases, it is traceable to early misgovernment, intemperance, prodigality, mortified ambition, &c. Let us feel the importance of cultivating temperance, self-government, intellectual and moral sources of enjoyment, and above all the affections of religion,—as the greatest sources of happiness to our children and to all;

It should not be forgotten that the *love of home, the cultivation of Fruits and Flowers*, and all those employments which enliven and bless home, were intended by God to contribute to mental equanimity."

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Trellis for Grapes.

One of the cheapest and most durable structures for this purpose, is described in a late number of the Western Horticultural Review. Substantial and durable posts are set in the ground fifty feet apart, those at the ends being planted deeply and firmly. Through these, half-inch holes are bored at twenty, forty, and sixty inches from the ground, and good annealed No. 8 or 9 wire passed through. It is fastened at the outer-posts by driving into the hole from the outside, a pin of hard wood, around which the wire is wound close to the post, which prevents it from drawing through. Intermediate supports, if wanted, are made by driving stakes having notches cut obliquely downwards with a saw for each wire, and fastening with a nail. One or two additional wires in height would be preferred by most cultivators. A coat of white paint on the wires, would remove the objection sometimes made to them,—that of becoming too much heated in the sun.

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Protection of Grape-vines from Rose Bugs.

Eds. Cultivator—After many trials, I think I have discovered a *very easy*, *cheap*, and *effectual method* of protecting *grapes* from the ravages of the *Rose bug*. The history of the discovery is as follows: Being situated in East Haddam, Connecticut, where we have steamboat navigation, and facilities for transportation to almost every part of the country, I concluded to commence the cultivation of Isabella Grape-vines, for market. When I first began my grape nursery, I was surprised to find that the *Rose bugs*, which were so destructive elsewhere, did not meddle with my vines in the nursery; but at first I supposed that it was because the vines were in a new place, where the bugs did not happen to find them. The like happened from year to year, till I began to think that it was because these vines lay on the ground, that the rose bugs did not meddle with them. To determine this point, I laid some branches of my larger vines on the ground, and had the satisfaction of finding that the *buds*, *blossoms* and *fruit*, which were formed within a few inches of the ground, were *never* molested by the rose bug. I then concluded, that I had made a desirable discovery, and I requested a number of my friends to try it, and their success has corresponded very exactly with my own. So that for the last two or three years, when the rose bugs have been very abundant, my friends and myself, have been uniformly successful in preserving from their ravages all the grapes which grew on those vines, which we laid on the ground, before they leaved out. The rose bugs *never* disturb the grapes after they begin to have a sour taste. This taste they generally acquire, as soon as they attain the size of large shot. At this period of their growth the grape-vines should be set up on a trellis, the side of a building, or a fence or tied to stakes, or put into other situations which will allow them plenty of both air and sunshine; for the grapes which *continue* to be on the ground, do not grow and ripen as well as those which are set up. The vines should be laid down before they leave out in the spring.

By this method of proceeding, I should think that I I last year obtained more fruit, from one of my grape-vines, than the whole amount which I had obtained from that vine, by every other method which I had tried with it, in 20 years before. By this method of proceeding, my Isabella grape-vines, have several times, been so much overloaded with fruit, that it became necessary to lighten their load considerably, in order to prevent the whole from blasting. And here let me say to the lovers of good grapes, that when the fruit on a vine, which is heavily laden with fruit, begins to turn brown, and appears to be sunburnt, both the good of the vine, and the value of the crop, require that the vine should be unloaded of a part of its burden.

In setting up the vines which have been laid on the ground, it is highly important, that they should be put up in such a manner that the same sides of the leaves, which grew next the sun, while the vine lay on the ground, should be placed next the sun when the vine is set up again, otherwise the health and vigor of the vine will be so much injured, that the growth of the fruit will be checked.

If the vine is to be set again in a *perpendicular* posture, the *spreading* branches of some tree, may be cut off, before they leave out, and the vine may be laid on these leafless branches and tied to them, or a moveable trellis may be laid on the ground, either west, north, or east, but not south, from the roots of the vine. The vine may be be laid on this trellis, and tied to it, and at the proper time, the vine with the trellis, or the branches of the tree, may be set up, with much less injury to the branches and leaves of the vine, than if the vine was brought up alone. And if the vine is laid down west, or north, or east from its roots, there will be much less difficulty, in placing the leaves, in a proper position, than if the vine was laid down south of its roots. The sooner it is set up after the grapes are large enough to be safe against the rose bugs, the less will the vine be injured by moving.

But where there is room, and where it is advisable to place the vine in a *horizontal*, instead of a perpendicular position, poles or rails of a sufficient length, to give suitable expansion to its branches, may be laid on the ground, and across the trunk of the main branch of the vine, at the distance of perhaps three feet from each other, and beginning perhaps four feet from the main root, then the vine may be laid down on the poles or rails, with the branches extended, in such a manner as to give plenty of room for the air and sunshine. And when the proper time arrives to set up the vines, the ends of the poles, or rails, may be laid up on to crotches, or posts, three or four feet high, and the thing is done at once.

I shall not attempt at this time, to tell the reason why the rose bugs will not eat the grapes which lie on the ground, but a number of years' experience, has uniformly shown that they *will not* do it. Asa M. Holt. *East Haddam, Conn., Feb.*, 1851.

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Horticultural Prizes.—The Boston Horticultural Society, always first in liberality, means and enterprize, awarded the past year, $650 for flowers, plants, &c.;

$628 for fruits; $142 for vegetables; and $155 for gardens and grounds. The same society has offered for 1851, the following sums in prizes: For fruits, $500; for plants, flowers, &c., $700; for vegetables, $250; prospective prizes for new varieties, $750.

The Curculio.

In answer to repeated inquiries, now that the curculio is about to visit us, we shall briefly give the mode of destroying this insect, by jarring down on white sheets, according to the best improvements which have been made.

First, with regard to the mode of beating the tree,—if the bark of the trunk or branches is struck, it soon separates from the wood and makes a bad wound; and if the mallet is wrapped in cloth, or cushioned, the blows become much less effective, and only a part of the insects are felled. Besides, even a cushioned mallet will after a while injure the bark. This difficulty may be avoided in two ways,—either by sawing off a small branch, leaving a short stump to thump against; or by forming a concave block so as to fit the trunk, and striking against this block,—the force of the blows on the bark becoming so softened as not to bruise the bark, in the same way that a hammer does not injure the knees when a lap stone is interposed.

Secondly, with regard to the easiest way to catch and kill the falling insects. If white sheets simply are spread under the tree, either several persons are needed to carry and spread them, or much time is consumed by a single individual. The work is made expeditious by stretching each sheet on light wooden frames. two separate frames being attached to each sheet, so that it may be folded or doubled together like the leaves of a newspaper, or the covers of a book. The great advantages of this arrangement are,—one operator may walk singly through the orchard, with two such folding-sheets in his hand, and extend these in a moment without assistance, under each tree; and after jarring down the curculios, instead of being compelled to search over the white surface for them, and to crush them singly between thumb and finger, the sheets are folded so as to throw insects, punctured fruit and all, into a pail of hot water. A few minutes are thus sufficient to go over a large fruit garden.

As to the efficacy of this mode, it is scarcely necessary to repeat here that it depends almost wholly on being unremittingly applied at least once a day, from the moment the young fruit begins to set, when not so large as a pea, till no more curculios can be found, or for several weeks. In one experiment, 18 of these insects were caught from a small plum tree at the first trial, yet by regular daily attention, a good crop was secured on this as well as on many other trees, which for previous years had never ripened one. Combined with the practice of confining pigs or poultry, this remedy can scarcely fail in the most unfavorable localities or in the most destructive years.

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The Working Farmer.—The third volume of this publication was commenced on the first of March, under the charge of A. Longett as publisher, and Prof. J. J. Mapes as editor. We presume the work will contiune to support the character it has so well maintained since its commencement. It is issued monthly at one dollar a year, in advance.

NEW PUBLICATIONS.

The Flower Garden; or Breck's Book of Flowers; in which are described all the various hardy herbaceous perennials, annuals, shrubby plants, and evergreen trees, desirable for ornamental purposes, with directions for their cultivation, by Joseph Breck. Boston: John P. Jewett & Co.

In this book, Mr. Breck has supplied a want long felt by a portion of the American public, while at the same time, the information which the work dispenses, is calculated to remove one of the greatest obstacles to the cultivation of flowers in this country. The author is well known as a successful horticulturist and florist, and his practical writings, as editor of the New England Farmer and the Horticultural Register, may be taken as showing the general character of the work before us. Its object is the "diffusion of general knowledge and practical information in relation to the floral kingdom, particularly for hardy trees, shrubs and plants, desirable for the embellishment of the flower-garden and pleasure ground." It is a handsome volume of upwards of 300 pages 12mo., printed in good style, and we presume will meet with an extensive sale.

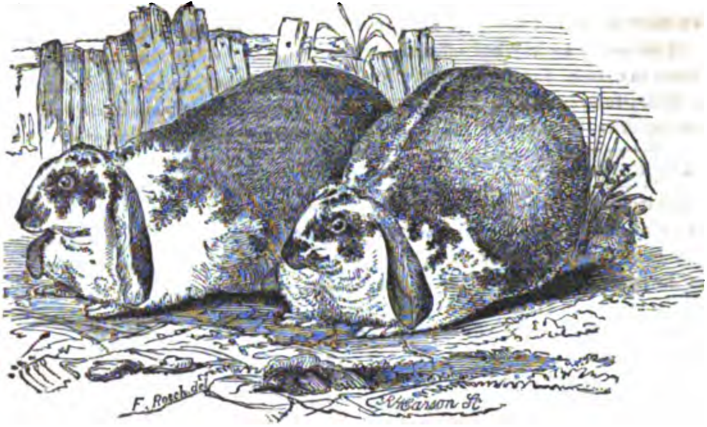
The Gardener's Text-Book: containing practical directions upon the formation and management of the Kitchen Garden, and for the culture and domestic use of its Vegetables, Fruits and Medicinal Herbs, by Peter Adam Schenck. Boston: John P. Jewett & Co.

This is a manual of gardening by a writer who appears to speak from his own experience. So far as we have examined, his directions are clear, comprehensive, and safe. It will be found a valuable aid to the kitchen gardener, furnishing many useful ideas and suggestions in regard to the proper composition of the soil, and the treatment required by the different articles which he may wish to cultivate.

Cattle, by W. Youatt and W. C. L. Martin, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a comple guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. Stevens. New-York: C. M. Saxton.

Youatt's work on Cattle is one of established merit, and Martin's, published at a later period, is also of high character and value; but it strikes us as a great objection to the work whose title is given above, that there is no rule by which the reader can know what portions belong to the respective English authors, or what alterations or additions have been made by the American editor. There are, however, some additions which are *acknowledged*—of these we shall take occasion to speak hereafter. The work is "got up" in very handsome style.

"The Soil of the South."—We have received two numbers of a monthly journal with this title, published at Columbus, Georgia. It is edited by Chas. A. Peabody, Esq., and Col. James M. Chambers. It appears to be conducted with good judgment, and will, we trust, be the means of dispensing much valuable information in regard to agriculture. The terms are one dollar a year, in advance.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FANCY LOP-EARED RABBITS.

Breeding and Management of the Rabbit.

The domestic rabbit, in all its varieties, has always been, and still is, a great favorite in many parts of the European continent.

In Holland, it is bred with reference to color, only, which must be a pure white, with dark ears, feet, legs, and tail; this distribution has a singular effect, but, with all, it is a pretty little creature. The French, breed a long, rangy animal, of great *apparent* size, but deficient in depth and breadth, and of course, wanting in constitution; no attention is paid to color, and its marking is matter of accident. The White Angola, with its beautiful long fur and red eyes, is also a great favorite in France.

In England, the rabbit formerly held the rank of "farm stock!" and thousands of acres were exclusively devoted to its production; families were supported, and rents, rates, and taxes were paid from its increase and sale. The "*gray-skins*" went to the hatter, the "*silver-skins*" were shipped to China, and were dressed as furs; while the flesh was a favorite dish at home. This was the course pursued in Yorkshire, Lincolnshire, and many other counties, with their light sandy soils, before the more general introduction of root culture, and the rotation of crops, gave an increased value to such land. Since then, however, I remember visiting a farm of Lord ONSLOW's, in Surrey, containing about 1,400 acres. It was in the occupation of an eminent flock-master and agriculturist, who kept some hundreds of hutched rabbits for the sake of their manure, which he applied to his turnep crop; added to this, their skins and carcasses were quite an item of profit, nothwithstanding the care of them required an old man and boy, with a donkey and cart. The food used was chiefly brewer's grains, miller's waste, bran and hay, with clover and roots, the cost of keep not exceeding two pence a week. The hutches stood under a long shed, open on all sides, for the greater convenience of cleaning and feeding. I was told that the manure was much valued by the market-gardeners round London, who readily paid 2s. 6d, a bushel at the rabbitries. These rabbitries are very numerous in all the towns and cities of England, and form a source of amusement or profit to all classes, from the man of fortune to the day-laborer. Nor is it unfrequent that this latter produces a rabbit from an old tea-chest, or dry-goods box, that wins the prize from its competitor of the mahogany hutch or ornamental rabbitry; for the feeling on such occasions certainly is—"stand back, fair-play, and let the best win."

Clubs and societies abound for the breeding and exhibition of the "Fancy-Lops," now the favorite rabbit in England, and originally imported from Madagascar. Much pains have been taken, and much money spent, to bring them to their present perfection in form, color and size; all which are minutely attended to, and not very easily combined in any one animal, and hence they form an admirable test of skill on the part of the breeder.

For instance, a rabbit to come out a winner, at one of those exhibitions, must possess all the points of symmetry in common with the larger animals of the improved breeds; such as, a small clean head, wide and full shoulders, broad and deep chest, a wide back, large loin, full quarters and fine bone.

Some of us, I suspect, find it no easy matter to get even thus far in the catalogue of excellencies; but to all these essentials are to be added the more *conventional*, and perhaps the more difficult points, of beauty and fancy, as laid down by the various societies; embracing not only form but color,—but the particular disposition and forms of color.

A prize rabbit, then, must possess, besides the before mentioned properties, a full, round, clear eye, an ear (colored as the body,) long and broad, of a soft delicate texture, dropping alike and nearly perpendicularly down by the side of the cheek, with the convex of the ear, turned rather out than in. This is termed its "*carriage*." The color on the body must be in strong rich unbroken masses, spreading itself uniformly over the back, sides and haunches, called the "*saddle*," but breaking into spots and patches on the shoulders, known as the "*chain*." The head must be full of color interspersed with white on the forehead and cheeks, while the darker marking on the point of the nose and on each lip, goes by the name of the "*butter-fly*," from the resemblance it should bear to that insect. Add to all this a large full dewlap, beautifully white, which spreads itself (when the animal reposes) over the fore feet and forms a rich cushion for the head. All this, combined, would indeed form a perfect lop-eared rabbit, worthy to enter, and likely to win the prize collar, be it of gold or silver; and the breeder may be proud of his success, though it be but a rabbit. Much consequence is attached to the length, quality and carriage of the *ear* in awarding premiums. I was indifferent to this point of length, and purchased much lower in consequence, paying from ten to forty shillings sterling, a piece, for those I imported, according to age and quality; whereas five guineas is not an uncommon price, and individuals have been sold as high as thirty guineas! The consequence of my selection is, that out of fifty rabbits, in my rabbitry, I have not one that will exceed eighteen inches length of ear from point to point! whereas the Illustrated London News of May, 1850, gave portraits of the two prize rabbits at the Rochester show, "from the excellent stud of Mr. Geo. Towell, measuring in length of ear 21¾ inches and 21¼ inches and nearly five inches wide."

Of those sent by the Queen from her own stock, to the Pacha of Egypt, none exceeded 20 inches, but they were beautiful in color and form.

The usual colors are black, blue, gray, yellow, and tortoise-shell, on white grounds. These are called "*broken colors;*" when not mixed with either, they are termed "*selfs.*"

The food of the rabbit embraces great variety, including grain of all kinds, bran, pea-chaff, miller's waste, brewer's grains, clover and other hay, and the various weeds known as plantain, groundsel, dock, mallow, dandelion, pursley, thistles, &c. &c.

The rabbit thus easily conforms itself to the means, condition, and circumstances of its owner; occupies but little space, breeds often, comes early to maturity, and is with all, a healthy animal, requiring however to be kept clean, and to be *cautiously* fed with *succulent* food, which must always be free from dew or rain—water is unnecessary to them when fed with "greens." My own course of feeding is, one gill of oats in the morning with a medium sized cabbage leaf, or what I may consider its *equivalent* in any other vegetable food, for the rabbit in confinement must be, as already stated, cautiously fed with what is succulent. At noon I feed a handful of cut hay or clover chaff, and in the evening the same as in the morning. To does, when suckling, I give what they will eat of both green and dry food. The cost to me is about three cents per week, per head.

I by no means recommend this as the best, or the most economical mode of feeding, but it happens to suit my convenience. Were I in a town or near mills, I should make use of other and cheaper substitutes. My young rabbits, when taken from the doe, say at eight, ten or twelve weeks old, are turned out together till about six months old, when it becomes necessary to take them up and put them in separate hutches to prevent their fighting and destroying each other. The doe at that age is ready to breed, her period of gestation is about thirty-one or two days, and she produces from three or four to a dozen young at a "litter." It is not well to let her raise more than six or even four at once—the fewer, the larger and finer the produce.

Young rabbits are killed for the table at any age from twelve weeks to twelve months old, and are a very acceptable addition to the country larder. The male is not allowed to remain with the doe, lest he should destroy the young ones.

Hutches are made singly, or in stacks, to suit the apartment, which should be capable of thorough ventilation. The best size is about three feet long, two feet deep, and fourteen inches high, with a small apartment partitioned off from one end, nearly a foot wide, as a breeding place for the doe. A wire door forms the front, and an opening is left behind for cleaning; the floor should have a descent to the back of the hutch of two inches. All edges should be tinned to save them from being gnawed.

Having now given the leading characteristics and qualities which constitute a good "fancy lop-eared rabbit," and its general management, allow me to remark on the striking difference observable between Americans and the people of many other countries, as to a fondness for animals, or what are termed "Fancy pets," of and for which we, as a people, know and care very little. Indeed we scarcely admit more than a selfish fellowship with the dog, and but too seldom does our attachment even for this faithful companion, place him beyond the reach of the *omnipotent dollar.*

In England, and in other parts of Europe, a love for animals, with the attendant personal care necessary to their comfort, is encouraged from childhood up, as having a beneficial influence on the character. To the young it is another occupation, full of varied interest, added to the list of *home* amusements and attractions, so desirable, and sometimes so difficult to provide for them.

The operatives, mechanics and laborers, in other countries, seem to have a perfect passion for such pursuits, and take the greatest interest and pride in breeding and perfecting the lesser animals, though often obliged to toil for the very food they feed to them. Here, too, home influences are perceived to be good, and are encouraged by the employer, as supplying the place of other and much more questionable pursuits and tastes.

In relation to the man of leisure and science, I would remark that, as the artist delights in the power of moulding the inert clay into life-like form, so does the intelligent and amateur breeder, find infinite pleasure in the yet higher, and more difficult art, of modelling the live material into its most symmetrical proportions. And why should there not be as much satisfaction in producing what is excellent on a small, as on a large scale? Is not the statuette as beautiful, and is it not as much an effort of genius and art as the statue?

To myself the rabbitry is a "Studio," whereof the material is cheap, rapidly produced, soon perfected, very abundant, and occupying a small space, and is thus brought under my own immediate care and observation, with but little trouble; requiring months, only, instead of years, to *practically test* theories and speculations, and for studying some of the most important, but not understood, laws of nature. Such as, how far it may be safe to use close affinities? And if deteriorating, what are the first and warning symptoms? In what order does the animal structure give way under a persisted course of such breeding? The same as to cross-breeding, and how far the control of the breeder is diminished by its continuance; the comparative influence of the parents on the offspring, and how evinced. These and many other unsettled questions, involving the first principles of breeding, would require almost a lifetime to decide by experiments on the larger animals, to say nothing of the large outlay it would require, and the serious losses that might reasonably be expected to attend it.

With all due value for the very important assistance rendered the agriculturist by analytical chemistry, I would sooner trust the practical experiments of the rabbitry, as to the value of the different kinds of food, than I would the analysis of the laboratory! And though one may prove, that a bushel of ruta-baga be little more or less than a pail of water, yet if the other showed me that turneps, as the principal food, with but two ounces of hay per day, to the rabbit, developed the animal frame by a healthy growth with an abundance of muscle and some fat, I should be strongly tempted to pour out the water, and pour in the turneps.

I am inclined to think there is as much science, and perhaps interest, in breeding a "*carrier-pigeon*" up to its highest capabilities as in breeding a *race horse;* and I very much doubt if there is more care necessary or greater attention given to the purity of blood, the training and running of the one, than is bestowed on the nice breeding, exercise and flight of the other! Large sums of money depend, in the sporting world, upon the courage, speed, and bottom of both.

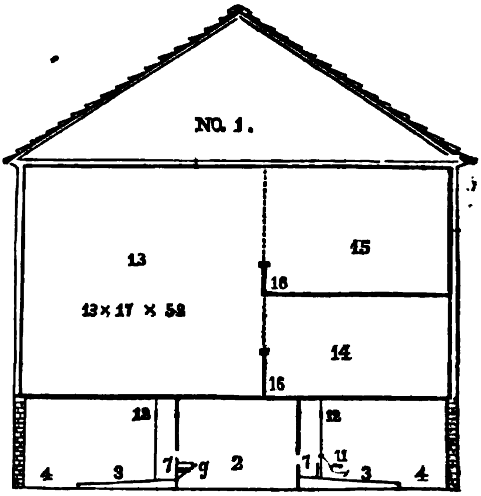
Hardly is the celebrated "Derby" over, and the winner proclaimed, when pigeons may be seen rising from all parts of the course, prepared to make another race of strengh and speed. These are watched, and bets made, as to which bird "*will be off first,*" with an interest but little less than that which had, but a few minutes before, been bestowed on the horses. The birds tower over head, wheeling round and round, enlarging their circles as they rise higher and higher, until, with unerring certainty, they have made good their point, decided on their course, and then, with astonishing velocity, take a "*bee-line*" to their several destinations. At the club-houses, betting-rooms, printing offices, and lotteries, members are waiting their arrival, watch in hand, and perhaps an express in the saddle, to take advantage of the *first* knowledge of the result to be brought by the fastest bird.

To all this, I am well aware, the question will arise with very many of your readers—*Cui bono?* and the conclusion as definitively follow—"*It won't pay.*" Perhaps not; and yet I believe that were the thing tried and a small club formed for the purpose of exhibition and experiment, that it would become, to its members, a source of much more interest than they could now suppose. As opportunities will now be numerous of purchasing rabbits from the best London breeders, I will give you the following names. Dr. Handy, just over Waterloo bridge; Mr. Payne, 142 White Chapel; Mr. Bailey, of the Star Coffee-house, Union street, out of Bishop's gate; Mr. Webster, Pleasant Place, Stamford street, Blackfriars road, over Waterloo bridge. From these breeders, other addresses can be obtained and stocks examined. Very truly yours, R. *Morris,* (formerly Butternuts,) *Otsego county, N. Y., March,* 1851.

Plan of a Barn.

EDITORS CULTIVATOR—Accompanying this explanation, I send you a draft of a dairy-barn. Though not precisely after the fashion of any barn with which I am acquainted, it is on the same general plan of the celebrated Dairy-barn built by the Society of Shakers, at New-Lebanon, so much reduced in size and cost, however, as to bring it within the means of almost any thriving dairyman.

One side of this barn, it will be seen, has three floors, and the other two; the lower, which should be of stone when it can be obtained, is devoted to stables for 24 cows, allowing a space four feet wide for each, with a separate manger for hay, and trough for slop or roots, before each. The following figures serve as a key to the whole building, and its appurtenances. Whole size, 80 by 52.



End View.

1. A cellar 8 by 15 feet, for roots.

2. A hall, 8 feet wide, from which the cows are fed, &c.

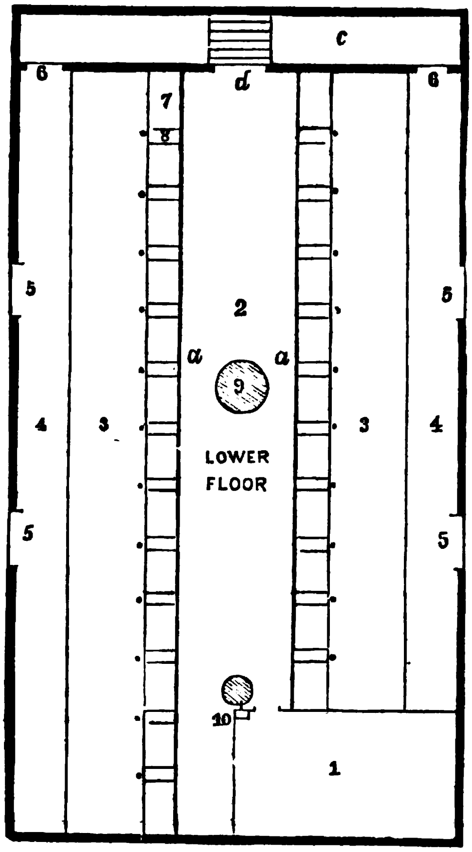
3.3. Stables—Platforms on which the cows stand, 5 feet wide, slanting half an inch to the foot, from the manger.

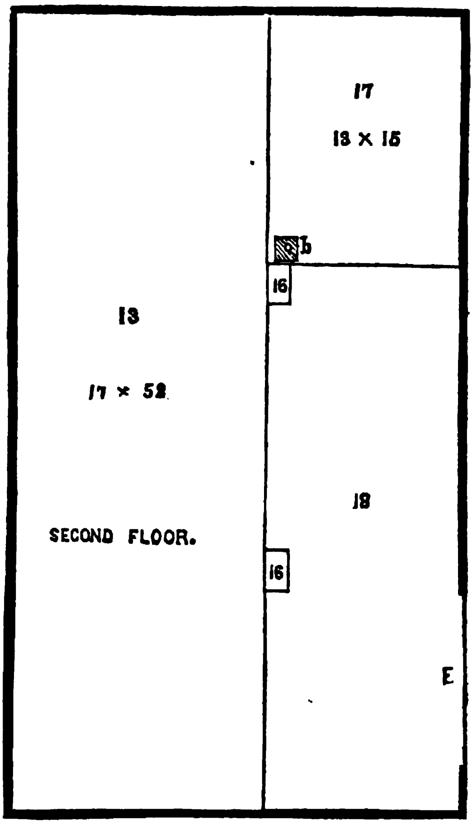
4.4. Floors, settled 4 inches below that upon which the cattle stand, into which all the excrement, either solid or fluid, is deposited, giving the animal a perfectly dry bed. This arrangement is indispensable to any good stable, either for cattle or horses.

5.5.5.5. Doors, 5 feet wide. These may be arranged wherever the shape of the yard, or character of the land, renders it most convenient.

6.6. Doors, intended to open into a shed over a vault made water-tight, for the reception of all the manure and litter. A wheel-barrow is used for carrying it to this end of the barn, where it is protected from the leaching of heavy rains, and the liquid portion is retained in the vault. where it should be mixed with coal-dust, saw-dust, plaster, muck, or some other substance capable of *fixing* the volatile gases, and rendering it more pleasant to draw on to land. Too much care cannot be taken of the manure made on a dairy farm.

c. Vault for manure, 5 feet wide and 3 feet deep, across which a bridge conducts to the hall.





7. Manger for hay or cut feed, 2 feet wide by 20 inches high.

8. Trough across the manger, one foot wide. In the Shaker barn, these troughs all draw out upon a brace or support, (as seen at g. in the end view,) into the hall, and after receiving the mess are shoved back to the cow. This is a great convenience.

9. A large tub for storing whey, or any other slops intended for the cows. When the dairy-house is near enough, and elevated somewhat above it, the whey may be conducted directly from the cheese-vat, through pipes into this tub. Many dairies have a similar arrangement.

10. Pump or penstock, standing in the corner of the cellar, by which it is kept from freezing. Those who wish to incur the extra expense, may conduct water by pipes from this pump to every cow's trough, into which it may be discharged as the animal needs it, through a stop-cock.

11. A chain with two branches, to confine the cow by passing it round her neck, and fastening it by slipping the T through the ring in the other end. The chain is attached to a smooth round post, (12) about 2½ inches in diameter, by a ring which slips up or down, as the cow may wish to stand up or lie down. This is believed to be preferable to stancheons, as it permits the cow, when lying down, to rest upon her side, in a natural position, and allows her to lick her sides if she wishes to.

12. The small round post to which the chain is fastened. It should stand a little outside of the manger, to allow the ring a chance to slip down and up.

13. The bay for hay, 52 by 17, capable of storing from 30 to 40 tons of hay.

14. The floor immediately over the stable, 7 feet between joints.

15. The third floor, upon which the load of hay is driven to be unloaded. This arrangement saves a great amount of pitching *up*, which is the hardest part of haying; but as the floor is 18 feet above the ground, it requires a tolerably long bridge to rise on to it; yet the extra expense is much more than saved in pitching off, and furnishing more room for hay. The carriage is driven out at the other end of the barn, down a bridge that may be much steeper. This floor is well adapted to threshing, when grain is raised on the farm, as is almost always the case.

When the building site is somewhat slanting, this high floor is very easily reached by driving in from the uphill end. This inclined situation is to be preferred where it can be obtained, as it furnishes a fine place for a warm cellar, by a little excavation.

16. Hatchways, through which hay is thrown into the hall to be distributed to the cows.

17. A room 13 by 15, or larger, for granary, storing shorts, provender, &c. When grain is threshed above, it is let down into bins and saves much labor in storing it.

b. A spout leading to the cistern, (9,) through which provender, &c., is led down to it.

18. This room answers many useful purposes, such as husking corn, storing green stalks, storing wagons in winter, and sleighs in summer, shutting up calves, &c. &c. A door opens into it from the side, at *e*. This room

is so much space saved, that in most barns is *over* the threshing floor, and almost useless. *a*. Narrow passages from the hall to the stable. As many of them may be made, and in such situations as the convenience of the builder may require. Gurdon Evans. *De Ruyter, March* 5, 1851.

The Farmer's Note-Book.

Best Grass for "Low Lands."

We are frequently asked, "What is the best grass for low lands?" The question, probably, has reference generally, to moist "swales," or to reclaimed bog or peaty soil, which it is desired to keep in permanent meadow. For such situations, we know of no grass that we think equal to a species of the *Agrostis* genus, indigenous to some of the New-England states, and known there as "Fowl Meadow." It has several peculiar properties which render it valuable. It makes a better quality of hay than any other grass that would thrive on such soils, and at the same time will yield more to the acre. A distinguishing trait belonging to it is, that its stems will keep green and retain their juices, even after the seed has ripened and fallen off. The stalks or stems are long and slender, and make a soft, sweet hay, which is much relished by cattle and horses. The roots are regarded as perennial, though it is deemed advisable, in order to keep up a good sward, to allow part of the seed to ripen and fall of itself, once in four or five years. New plants will thus be formed which will supply the place of such as die out.

A good time for sowing this grass, is the latter part of summer or first of autumn. The ground should be prepared by the aquatic and inferior plants being eradicated as thoroughly as possible, and the surface smoothed, when half a bushel of good seed may be sown to the acre, and a bush-drag drawn over to cover it slightly. The seed may generally be had at Boston, and is, we presume, kept by the principal seed dealers there.

An interesting description of the "Fowl Meadow" grass, was written by Rev. Dr. Jared Eliot, of Killingworth, Conn., and published in a work of which he was the author, entitled *Essays on Field Husbandry, wrote from a Journal of thirty years Experience*, printed in 1747. The following is from that work:

> There are two sorts of grass which are natives of the country, which I would recommend; these are Herd Grass, (known in Pennsylvania by the name of Timothy Grass;) the other is Fowl Meadow, sometimes called Duck grass, and sometimes Swamp-wire grass. It is said that herd grass was first found in a swamp in Piscataqua, by one Herd, who propagated the same; that fowl meadow grass was brought into a poor piece of meadow in Dedham [Mass.,] by ducks and other water fowl, and therefore called by such an odd name.
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> It is supposed to be brought into the meadows at Hartford [Conn.,] by the annual floods, and called there Swamp-wire grass. Of these two sorts of natural grass, the fowl grass is much the best; it grows tall and thick, makes a more soft and pliable hay than herd grass, and consequently will be more fit for pressing, in order to ship off with our horses; besides it is a good grass, not abundantly inferior to English grass; it yields a good burthen, three loads to the acre. It must be sowed in low moist land, our drained [bog] land when it is of sufficient age, [or has been drained a sufficient length of time.] is very agreeable to this sort of grass. As the seed is very fine, there is danger of sowing it too thick, as some have done, so as to come up thick, like hair; this is a loss of seed and prejudicial to the grass. When you bring to a swamp by flowing, have killed your brush and ditched your land and got it a little dry, you may sow your seed among the trees and brush; it will come up, establish itself, and prevent other bad grass from taking possession; then you may clear off the wood and brush at your leisure; and then you will have good grass to mow as fast as you can clear the land. I have seen it grow knee high where the dead brush were very thick.
>
> This grass has another good quality, which renders it very valuable in a country where help is so much wanting; it will not spoil or suffer, although it stand beyond the common times for mowing. Clover will be lost in a great measure, if it be not cut in the proper season. Spire grass, commonly called English grass, if it stands too long, will be little better than rye straw: if this outstand the time, it is best to let it stand till there comes up a second growth, and then it will do tolerably well; but this fowl grass may be mowed at any time, from July to October. One of my sons told me, that at New-Fairfield, he saw some stacks of it that the people told him was cut in October; he pulled out some of the hay, it looked green and had a good smell. This is a great convenience in time of sickness, or any other casualty, whereby we may be hindered from mowing in season. This good property renders it a fit sort of grass for a new country, where we often have business crowd too hard upon us.
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> In reading Mr. Ellis, I find by him that they have got herd-grass [in England] from this country, and set a value upon it; if they like that, they would like this much better; for although herd-grass be a valuable sort, fowl-meadow grass hath quite eclipsed its glory.

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Indian Corn for Fodder.

The practice of raising Indian Corn to be fed to stock in an immature state, either green or dried, is not uncommon. It affords more forage, probably, than can be obtained from any other crop. It has been generally sown broadcast, harrowing in about two bushels of seed to the acre. But experience has proved that it is a better way to put the crop in drills, on account of the advantage it gives for destroying weeds. In broadcast sowing, the weeds often get the start of the corn, and prevent its growth, more or less.

In drill planting, the seed may be put in with a machine, drawn by a horse, by which the work is executed with dispatch. The rows may be from two to two and a-half feet apart, and it is best to use seed enough to have the stalks thick and fine, as such are eaten better by stock than larger ones. The crop may be kept clean by the cultivator, which should be passed through the rows as soon as the corn is fairly above ground.

The value of the crop depends somewhat on the variety of corn chosen. It is sometimes recommended to take the large southern corn, for this purpose. It may give as large, perhaps a larger crop, but stock do not like it as well. The best variety is the common large sweet corn. It makes a good growth, tillers, or suckers much, and the fodder has a peculiar sweetness which induces cattle to eat it with more avidity than they will eat that of any other kind of corn. A farmer in this vicinity who planted considerable corn last year, for feeding out while green, had three kinds of seed; southern, yellow or Dutton, and sweet corn. He began cutting the sweet, using it to feed stock which was being exhibited at the State Fair. They ate every bit of it with a good relish; but when the sweet corn was gone, and the usual quantity was cut and fed from the the Dutton and southern, the cattle discovered the difference at once. They smelt it over, tossed it about with their noses, and finally would not eat it without wasting more or less. The same thing has been noticed with hogs, when the corn crop has been cut up and fed to them while the ear was soft. They would eat the sweet corn, stalk and all; but would leave much of the other, though both were in the same state of ripeness.

The Indian corn plant, in its green state, contains so much sap that it is with difficulty dried so that it will keep well—it is very liable to become sour and mouldy, in the barn or stack. On this account many do not attempt to keep it till winter. Its use, however, as green forage, is every year increasing. Dairymen find a great advantage in feeding it the latter part of summer and in autumn, when grass is generally short, and often very scarce, from the effect of drouth. For this purpose it is sown at intervals in June, and as late as July, on good ground, and the crop gets forward so that it may be cut in August; and as the lots from the different plantings come in successively, they may afford a regular supply till hard frosts come. It is fed in mangers in yards or sheds, or carried to grass fields—cutting it in such quantities as are needed from day to day. It may be cut, if required, when it is not more than a foot high, as in such cases it will start again and afford a second cutting; but it is deemed best when the stalk is fully grown and the grain is beginning to form. If the crop is to be dried for winter use, it is best to let it stand till the top or "spindle" begins to die, as it will then contain less water, and can be cured with less labor. A good mode of curing, is to cut it in fair weather, let it lie (as thin as possible) and wilt one day; then bind it in small bundles, putting the band as near the top as practicable, and gather the bundles into small shocks, open at the bottom, and let them stand till sufficiently dried to be put in the barn or stack.

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Cultivation of Potatoes.

EDS. CULTIVATOR—The season for planting the potato is approaching, and as that valuable root has of late years been much subject to disease, if there be anything in the season of planting, in kind of soil, seed, or culture that would be likely to remedy, wholly or in part, the ravages of this blight, it must be a matter of interest and importance to every farmer to be aware of it.

I will not attempt to offer anything new on the subject, for I do not pretend to be in possession of anything not already suggested, and perhaps practiced by many. I will only give my experience in potato raising for the last three seasons.

In 1848, I chose for my potato plat a loose soil (slate) with a clay subsoil. On the half acre, I had spread about four wagon loads of compost, made of leaves gathered from the woods and mixed with barn-yard manure. This was done before plowing. The ground was in Indian corn the year before. On the 29th of April I planted. The crop was cultivated in the usual way, and was dug on the 21st of September. The yield was good—the potatoes being of a fine size and excellent quality. Not more than eight or ten diseased ones were found at the time of digging, nor did they rot after being stored away.

In 1849, a piece of ground was selected for the potato lot, about the same in kind and condition as the above described, having been also in corn the season preceding. This was spread with barn-yard manure alone, and on the 18th of April was planted. The crop was dug the 1st of September, and was quite a failure, caused by a long drouth, but was entirely free from blight.

Last season I had for potatoes a rich sandy soil which was, likewise, in corn the summer before. It was planted without manure, on the 9th of April. This crop seemed so much checked by the drouth in the early part of the season, as not to be much benefitted by the abundant rains and remarkable growing weather that continued throughout the rest of the summer. The yield from this plat was small; but was free from blight and the tubers have kept over winter without being the least effected. The potatoes in this last instance were not raised until about one month after the tops were dead.

Early planting has been frequently recommended as a preventive of the blight. It will be noticed of the instances given above, that the time of planting was earlier than farmers usually plant; which with several other cases of the kind that I have noticed in the neighborhood, has induced me to believe that early planting may have its advantages and deserves the attention of farmers.

The mode I have practiced for some years, of covering the seed potatoes after they are dropped in the drills, is much more expeditious than with the hoe or plow, not requiring one fourth the labor and doing the work better. As I do not intend to get this labor-saving contrivance patented, I give a description of it for the benefit of any who choose to practice it.

Take two pieces of scantling about eight feet long and four inches square. Invert your harrow, turning the points of the teeth upwards. Then take the scantling and lay one piece across the foremost part of the harrow, and the other one nearer the hind part, between the teeth, and in such a manner that when the harrow is righted and drawn across the drills, the scantling will be parallel with the drills, or pass over them sidewise. Now chain them fast to the beams of the harrow and you have all ready. Then by attaching your team, and driving across the rows, it will be found to cover the seed and level off the surface so that it will be difficult to discern the drills from the spaces between. One man and two horses with a fixture of this kind, could cover from eight to ten acres of potatoes in one day. J. H. ALEXANDER. *Near Lewistown, Pa.*

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Improved Stock in Nova Scotia.

The following is an extract from a letter lately received from JAMES IRONS, Esq., Secretary of the Central Board of Agriculture for Nova Scotia, who in 1850, as the agent of that association, purchased in this vicinity and in Massachusetts, some valuable cattle and swine, for the improvement of the stock of that Province. The letter is dated, "Horticultural Gardens, Halifax, Nova Scotia, Feb. 25, 1851."

I know it will be gratifying to you all to learn that the Aryshire and Hereford cattle, which I purchased from Messrs. Prentice and Corning, severally, have fortunately fallen into good hands, are thriving well, and promise to be of great service in improving our Provincial stock. The Ayrshire bull "Dundee," is now the property of the Dartmouth Agricultural Society, by whom he is highly appreciated. The young Aryshire bull calf "Major," is the property of the Cornwallis Agricultural Society, also the Ayrshire cow "Jenny 2d," both doing well. The Ayrshire heifer "Jenny Deans," was purchased by John Brown, Esq., of Falmouth, whose care as a breeder renders him worthy of her promise. The Hereford heifer is owned by John Esson, Esq., of Halifax. She is kept on his farm at Dartmouth; she is much admired. The young Devon bull which I purchased from the editor of the "Massachusetts Plowman," is now the property of Messrs. Brown and Black, at Windsor; he is also doing well. The Hereford bull is owned by the Windsor Agricultural Society, who prize him highly. The Suffolk and Middlesex swine, which I purchased from the late Mr. Stickney of Massachusetts, are widely distributed over Nova Scotia, and cannot fail, in the hands of careful breeders, to improve our stock. The Central Board of Agriculture, at Halifax, in disposing of these animals, obtained bonds from the purchasers, warranting a careful preservation of the stock and their progeny within the Province, for a certain period; but it is to be hoped that the farmers' own interest will prove a sufficient guarantee in this instance.

The past season has proved more propitious to our agricultural interests than the preceding one. With the exception of potatoes, which were generally blighted, all other crops have proved a fair average. With best wishes, I beg to remain, sir, your ob'dt and obliged servt., JAMES IRONS, *Sec'y C. B. A., Halifax.*

Indian Corn.

EDS. CULTIVATOR—In the Cultivator of May last, "A. S. F.," of Granville, N. Y., has given us the method practiced by Mr. Clark of Castleton, .Vt., in raising Indian corn. He says, "The manure being spread," &c. I wish to ask how much manure to the acre he considers necessary. Supposing a man has little or no manure, does he consider his compost sufficient of itself to raise a good crop of Indian corn, on tolerably good land. For if manure enough is "spread upon the furrows and thoroughly harrowed," we may expect a good crop without his compost. I have about three acres of land, from which I would like to take a good crop of corn this year, and have no manure but what I buy at a cost not less than seven dollars per cord, delivered on the land, which is two miles from the city. "Mr. C. says he knows from actual experience, that the compost for one acre will produce more corn than fifty loads of manure." A. S. F. says, "I shall try the experiment," I am desirous to know the result of his "experiment" before planting time.

Does A. S. F. hill up his corn, or does he not? I notice that "A Practical Farmer" on page 62 of the current volume, recommends to go through with "the cultivator three times both ways"—I suppose six times in all—"and never haul dirt to the corn."

Is this compost alone better than 50 loads of manure to the acre? and is the cultivator six times through the rows, and a clean pulling of weeds, the best mode of culture after planting? If so, I think it must be a great improvement on the old methods of raising corn. My land is rather high, and approaching to a gravelly loam. GEO. MANSFIELD. *Lowell, March* 3, 1851.

Injury by Muskrats.

EDS. CULTIVATOR—I hope some of your readers will give the information which another correspondent desires, in relation to the muskrat. This animal is a perfect pest in my grounds. He not only burrows in the banks of ditches, much to my annoyance, but he is very destructive to my corn. This last season, the muskrats ate off more than half an acre of my corn, after it had got to be two or three feet in height. My man checked their operations, partially, in the latter part of the season, by snaring them with a brass wire set in their paths, but this costs too much time and attention. Unless I can find some easier mode of destroying them, I shall be obliged to forego the cultivation of corn on a piece of 15 acres, peculiarly adapted to its growth.

I believe this animal subsists entirely upon vegetable food. Old trappers have sometimes baited them with a bit of parsnip, carrot or sweet apple, which they will sometimes nibble at and carry away. What we want to know is, whether they can be fed with any kind of *prepared* food. That ascertained, I have no doubt *strychnine* would do the rest. Yours, &c., V. W. S. *Syracuse, Feb.* 1851.

The Germantown *Telegraph* states, that these animals may be readily caught in a steel-trap, set in the water where they have their paths, in going to the land for food. It is said not to be necessary to bait the trap, but it must set where they would be likely to put their feet in it. The writer states that nine were caught in this way in the course of a few weeks. It is necessary to fasten the trap by a chain or piece of wire, to prevent its being carried off by the muskrat.

Strong Vitality of some Varieties of Weed-Seeds.

EDS. CULTIVATOR—The garden which I occupy had been neglected before it came under my care in the autumn of 1842. There was in it a small triangular plat, of less than two square rods, surrounded by gooseberries. This I found covered with the yellow dock. It has now been under cultivation for eight years, and has occasionally been deeply spaded. I think it fully within the limits of truth to say that I have destroyed upon it three crops of young plants each year; *and the end is not yet.* The fact obviously is, that each year of cultivation has thrown up seed that had previously lain too deep cast and removed from the air to germinate. All seeds have not this strong vitality. Corn and beans deeply planted will speedily rot, but potatoes and peas will grow from any depth at which they ever become buried by the deepest cultivation.

Let farmers beware how they neglect a crop of weeds under the impression that a little extra cultivation, the next year, will make up the difference. It may be so with some varieties, but with many it will not, as they will discover, to their expense and sorrow, in long subsequent years. Query: Who has experimented on this subject, and will give the public a table exhibiting the different vitality of weed-seeds. C. E. G. *Utica, Feb.* 7, 1851.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have been received since our last, from L. Durand, R., Amenia, E. D. A., Bridgewater, H. Neff, J. G. C. Jr., J. H. Alexander, Prof. J. P. Norton, J. C., W. L. Eaton, C. Reagles.

Books, Pamphlets,&c., have been received as follows: Report of Commissioners concerning an Agricultural School, to the Legislature of Massachusetts, from Hon. M. P. Wilder, chairman of the Board of Commissioners.——An Address delivered at the annual meeting of the Rensselaer Ag. Society, Feb. 4, by Hon. L. C. Ball, President of the Society.——Agricultural Geology, by Josiah Holbrook, from the author.——Geranium "Lucia Rosea," from Geo. C. Thorburn, Astoria.——An Essay on the General Management of a Farm in Canada, published with additions, by the New-Brunswick Ag. Society.——A pair of White Dorkings, from Levi Durand, Esq., Derby, Ct.——Seeds of the Cape Gooseberry, from E. B. Prentiss, Watervliet.

Agent to the World's Fair.—Gov. Hunt has appointed Benjamin P. Johnson, Esq., Secretary of the State Agricultural Society, Agent of the State to the World's Fair. Mr. J. sailed for London in the steamer Baltic on the 16th ult.

Winter Meeting of the New-York State Agricultural Society.—In connection with the next annual meeting of the society, it has been determined to hold, in this city, an exhibition of fat stock, specimens of grain, &c. A list has been prepared, comprising premiums for the best fat cattle and sheep, the best carcasses of beef, mutton, pork, poultry of all kinds, (dressed,) samples of grain of all kinds, peas, beans, and grass seeds. We belive that such an exhibition, under proper regulations and management, may be made highly useful to the farmer, the dealer, and the consumer. By bringing together large quantities of the best articles, dealers will find it an occasion for making their selections and purchases to advantage, and the comparisons which may be made, will be the means of imparting correct ideas in regard to the quality of meats, and the properties of different breeds of animals in this respect—a point on which information is much needed.

Death of John S. Skinner, Esq., and Hon. Isaac Hill.—These individuals, who have long occupied a prominent position before the public, have lately been taken from us by death. Mr. Skinner was the pioneer in the establishment of agricultural periodicals in this country, having commenced the *American Farmer* in 1819. He has been, for the most part, connected with the agricultural press, from that down to the present time. At the time of his death, he was conducting the *Plow, Loom* and *Anvil*. His energy, zeal and devotion to the improvement of the industrial interests of the country, are well known, and for the important services he has rendered, his memory will long be cherished with lively gratitude. His death was sudden and entirely unexpected. It occurred on the 21st of March at Baltimore. It appears that in attempting to leave the post-office in that city, where he had been called on business, he, by mistake, opened a door leading to the cellar, into which he was precipitated, breaking his skull as he fell to the ground. He was taken up speechless, and died in a few hours afterwards.

Mr. Hill died at Washington, from an asthmatic affection with which he had been afflicted many years. He had filled many important political stations, the chief of which were those of United States Senator, and Governor of the State of New-Hampshire. Of late years, he had manifested great interest in agriculture, and had published several volumes of a paper called *The Farmers' Visitor*. He also carried on farming to considerable extent, and was quite successful in the management of a tract of land, near Concord, N. H., which previously to its coming into his possession, was regarded as of very inferior quality. His example in this respect is believed to have been highly salutary and useful in promoting agricultural improvement in the section where he lived.

Apples from Kentucky.—Lewis Sanders, Esq., of Grass-Hills, Ky., has sent us some specimens of a variety of apple produced in his orchard and cultivated to considerable extent in his neighborhood. All the specimens excepting one were so much bruised and injured that their quality could not be fairly judged of. Mr. S. describes it as "a small red apple, highly aromatic, juicy and crisp, very light and pleasant to the stomach. In eating from October to April. I think it is the best apple for the dessert that I have met with." Mr. S. is desirous of ascertaining its name. It is very popular in that part of Kentucky, but he has not met with it elsewhere. Although we have only seen it under unfavorable circumstances, we should say it is worthy of being more extensively known and propagated.

Fowls from Connecticut.—We have received from Mr. Levi Durand, of Derby, Ct., a pair of his white Dorking fowls. They are of good shape and medium size. Mr. D. says, in regard to this stock, "According to poultry fanciers and breeders, they must have five toes on a foot, to be genuine. Some of mine have only the ordinary number of toes, and yet are perfectly uniform in other respects. The cocks have both single and double combs, and the legs and bills of the true Dorking are invariably of a silvery white."

Effects of Railroads on Agricultural Products.—The effects of railroads in modifying the agriculture of different sections, is illustrated by the example of Massachusetts. Since 1840, about 800 miles of railroads have been laid in that state. According to the returns of the assessors, it appears that the number of horses in the state, has increased from 60,030 in 1840, to 74,060 in 1850. This is remarkable, especially when we consider the fact that the railroads have displaced many lines of stages on which numerous horses were employed; and it shows also that the increase of business occasioned by the railroads, gives employment to an increased number of horses. From the same returns we learn that cattle have increased from 278,737 in 1840, to 299,600 in 1850, while in the same period, sheep have declined from

343,390 to 179,537. The produce of wheat has declined from 101,178 bushels to 28,487, while Indian corn has increased from 1,775,078 bushels in 1840, to 2,295,856 bushels in 1850.

Fine Fat Cattle.—J. M. Sherwood, of Auburn, sent to New-York in March last, several very fine fat cattle, among which we particularly noticed a full blood Short-horn cow, *Grace*, and a pair of grade Short-horn oxen, five years old. The cow was ten years old, and had produced several calves. She was remarkable for smallness of bone, as well as for general symmetry, and was of uncommon fatness. Her live weight was 1,850 lbs.—dead weight—quarters, 1,210—hide, 101—tallow, 153—total, 1,464 lbs. She proved to be heavy with calf, which undoubtedly detracted from her weight. The foetus with its appendages weighed 60 lbs. The live weights of the oxen were, 2,300, and 2,110 lbs. We have only received the weights of their quarters, which were, 1,588, and 1,360 lbs.

Imported French Merino Sheep.—Mr. John D. Patterson, of Westfield, Chautauque county, N. Y., has lately obtained of Mr. J. A. Taintor, of Hartford, Ct., two rams and six ewes, imported from France. Three of them arrived in February last, and the others in the autumn of 1850. Like most others of this stock which have been brought to this country, they are of very large size for Merinos, and appear calculated to produce a great weight of wool. We notice that some of Mr. P.'s sheep have a finer staple of wool than we have generally found in this stock, and one or two of the ewes are almost faultless in shape, and the quality of their wool is quite even and uniform over the body.

An Agricultural Convention composed of delegates from the various county agricultural societies in Massachusetts, was held at the State-House in Boston on the 20th of March last, for the purpose of taking measures in regard to the improvement of agriculture. Hon. M. P. Wilder was chosen president, and addressed the convention in relation to the object for which it had been called. Several other addresses were made, and a series of resolutions reported and adopted, one of which recommended the establishment of a Central Board of Agriculture to be composed of delegates from the various agricultural societies of the commonwealth—the Board to meet semiannually or oftener, and to recommend to the societies measures for action; and to consider all subjects pertaining to the interests of apriculture. Another resolution related to the establishment of Agricultural Schools in the State, in which it wa sheld to be the duty of the government to aid; and the last resolution suggested to the legislature the propriety of reserving the proceeds of the sales of the public lands belonging to the State—"from and after the period when the Common School Fund shall have reached the maximum fixed by the act of 1834—for purposes of education and charity, with a view to extending that aid and encouragement to a system of agricultural education."

Imported Horse Consternation.—It will be seen by Mr. Burnet's advertisement, that the services of this fine horse are obtainable on very moderate terms.

Flavor of Butter.—The market of Philadelphia has long been noted for the quality of its butter. Its peculiar flavor has been a subject of some speculation. G. Emerson, Esq., attributes it to the Sweet-scented Vernal grass, (*Anthoxanthum odoratum*,) which is said to abound in the pastures near that city. We know of no good reason for this hypothesis, and would interpose a caution against a too extensive use of seed of this grass. It is not liked by cattle, as may be known by noticing that it is often rejected in pastures, when many other kinds, (especially the different species of *Poa*, spire or blue grass,) are eaten to the ground. It is inclined to grow on cold, wet land, and is not a nutritive grass, according to analysis. Its odor is agreeable in hay, though it does not appear to be highly relished by stock in any state.

Improvement in Drill-machines.—An improvement in drill-machines has been made in England, by which a sufficient quantity of water may be deposited with the seed to insure its germination, even in the driest time. In many instances this may be of much importance. It often happens that sowing must be deferred, after all preparations are completed, or else the seed must be put in the ground with more or less risk of its failure. Sometimes there is barely moisture enough to swell the seed, without fully developing the root and blade, and if it shrinks under these circumstances, it will seldom start again. By wetting the soil, as is said to be done by this drill, so as to bring up the plants quickly, all this risk may be avoided, the crop may be sown without any delay, and may frequently be forwarded considerably from what it could have been if sowing had been delayed till the earth was moistened by rain. For root-crops especially, this will be of much advantage. The same machine also drops ashes, plaster, bone-dust, guano and other fine manure, in the drill with the seed.

Sanatary effects of Drainage.—President Hitchcock, of Amherst College, in his late report on the Agricultural Schools of Europe, mentions a very striking case of the benefits of drainage on the health ann longevity of the inhabitants of the district. It was a part of a large tract of country in France, over which there was a "scattered and miserable population, the mean length of whose lives did not exceed twenty-five years." The unhealthiness was caused by the periodical inundation of numerous marshes, "which brought pestilence with the overflow." M. Nevicre, says President H., "purchased 1600 acres, and in two years succeeded in draining all the ponds, and introducing successful cultivation with the most marked benefit as to health. Before the drainage was finished, the percentage of his domestics, sick with fevers, was as high as twenty from June 15 to October 15. After the drainage the proportion fell successively to six, five, three, and finally to one-half per cent."

"**Improved Turbine Water Wheel.**"—A correspondent in Pennsylvania writes to know, from some one who has this wheel in use, whether it performs all that is claimed for it in the advertisement. (See current vol., page 125.) The particular point on which information is wanted, is stated as follows: "It is said that a seven foot wheel with 28 feet head of water, using 40 inches, will grind 182 bushel of wheat in an hour. How many burrt are required to do this?"

Show of the Royal Society.—We stated in a late number, that the show of this society for the present year, would be held in Hyde Park, during the World's Fair. This was according to the first announcement, but it has since been resolved, on account of the great crowd which will be gathered on that occasion, and the consequent want of room,—to hold the cattle-show, &c., at *Bushy Park*. It will take place on Tuesday, Wednesday, and Thursday, the 15th, 16th and 17th of July. It is expected the display will be equal or superior to any thing of the kind ever made in Great Britain, and it will, doubtless, form one of the most attractive and interesting objects to many of our countrymen who will be in London at that time. The Highland Agricultural Society will hold no meeting this year, on account of the great exhibition; but it is expected that numerous specimens of the best breeds of Scottish live-stock, agricultural products, implements, &c., will be exhibited—thus affording a rare opportunity of making useful comparisons. A trial of implements will take place on the farm of Mr. Pusey.

Suffolk Pigs.—The *New-England Farmer* states J. L. Lovering, of Hartford, Vt., brought to Boston in February last, twelve pigs of the Suffolk breed. Two of them were from twelve to fourteen months old, and weighed over 400 lbs. each. The other ten were from six to ten months old; and some of the latter age weighed 300 lbs. The aggregate weight of the twelve, was 3,470 lbs., or 289 lbs. each. These pigs, it is said, were fattened largely on apples, being fed, also, with small potatoes and some corn meal. This breed of swine was introduced into the country by the late Wm. Stickney, of Boston. It is much esteemed, and the pork of Suffolk pigs sells at a higher price in Boston market than any other.

Yields of Carrots.—We notice that the first and second prizes on carrots given by the Clinton county (N. Y.) Agricultural Society, were for crops yielding as follows: 1,249, and 1,176 bushels per acre—52 lbs. being taken as a bushel.

Large Crop of Corn in Vermont.—We are informed that Mr. Jonathan Hodgeman, Hartland, Vt., raised last year, on one acre of land, 144¼ bushels of corn, weighing 59¼ pounds to the bushel. The soil was alluvial, lying on the Connecticut river. The evidence in regard to the crop, was such as to satisfy a committee of the Windsor county Agricultural Society, who awarded a premium for the same.

Delaware County (N. Y.) Ag. Society.—This society has offered a very liberal list of premiums for the present year. Their show is to be held in Delhi on the 8th and 9th of October next. We notice the offer of several volumes of The Cultivator among the premiums.

Palmer & Co.'s Artificial Leg.—We would call attention to an advertisement of this article in this number. We have seen the "artificial leg," at some of our State Fairs, and in common with many others, were much pleased with its beauty and perfection.

ANSWERS TO INQUIRIES.

Kephart's Fruit and Vegetable Preserver.—"Has this article been found by experience to answer in every respect the purpose for which it was intended?" H. N., Pa. We have had no personal experience on this subject, but have frequently heard it spoken of as a "good thing." We should like to hear more particularly from those who have used it.

Steeps for Seeds.—"Will you give us your opinion of steeps for seeds. Are they advisable, and will they *pay?*" J. G. C., Jr., Kingston, R. I. The subject of steeping seeds has received less attention lately, than was given to it several years ago. The inference from this is, that steeping has been found less advantageous than was anticipated. In 1844 and '45, many trials were made with various steeps, the results of several of which were reported to us, and will be found in our volumes for those years and for 1846. Muriate and sulphate of ammonia are the substances which have been most highly recommended, and in many instances they seem to have been useful, although considerable uncertainty evidently attends their operation, as we have frequent reports of their having produced no sensible effect on the yield of the crop. It is not advisable to plant seeds which have been soaked in any liquid in very dry ground, as in such cases the moisture is attracted from the seed, and if it has been much swelled the germ will perish.

Culture of the Locust.—A. B. G., Springfield, Pa. Your inquiry was, in effect, answered last month. (See page 139.)

Carter Potatoes.—W. H., Moriah, N. Y. The Carter is a potato of excellent quality for the table, and it has usually sold at a higher price in market than most other kinds; but as an offset to this, it is very liable to be injured by the *rot*—so much so, that its cultivation has been almost discontinued in this vicinity.

Quantity of Flax-seed for an Acre.—O. P. Q., Ohio. The quantity of seed proper for an acre may vary according to the object. If the crop is destined for seed, it is probable less than a bushel might give as large a yield as more; but if lint or fibre is the object, more seed would be required. We notice in the report of a discussion at a late meeting of the Council of the Royal Ag. Society, Mr. Marshall, M. P., said—"With regard to thick and thin sowing, that question had reference to the object of the cultivator, namely, whether a fine fibre and little seed were required, or a coarser fibre with a full crop of seed. On the banks of the Lys, in Belgium, where the finest flax had been grown for centuries, and used for making the finest lace, they practiced thick sowing, 3¼ bushels per acre, and obtained about 14 bushels of seed per acre; but the stems were long and straight, without branches, and the longest fibre was obtained. In Ireland and Russia thin sowing was practiced, from 2 to 2¼ bushels per acre, and from 16 to 20 bushels of seed were obtained; but the stems of flax branched out more, and an inferior fibre was the result.

Preparing Sweet Corn for use in Winter.—J. C., Tariffville, Ct. We believe the common mode of preparing this article, is to scald the corn by pouring hot water on the ears, and afterwards cutting off the corn and drying it in the sun. We have known it prepared in another way. When the corn is in proper state for boiling, the outer husks are stripped from the ear, leaving on the inside layer. The ears are packed in strong brine in a tight barrel. When wanted, the husk is taken off, the corn cut off and soaked in fresh water for twenty-four to thirty-six hours, or until the salt is entirely extracted. It is then boiled in the same manner as ordinary corn.

Hussey's Reaping Machine.

EDITORS OF THE CULTIVATOR.—As the inventor of what is known as Hussey's Mowing and Reaping Machine, I am not willing to be held responsible for the operation of such machines as are not built by myself, at my manufactory in Baltimore. If those persons in other parts of the country, who are building by permission, and those who are infringing on my rights, do not keep up with my improvements, it is unjust that their machines should be allowed to give a character to my own. You will therefore please admit into your advertising columns the experience of those who have used my Baltimore made machines, and oblige yours, OBED HUSSEY. *Baltimore, Md., March* 10, 1851.

Wool Market, April 12, 1851.

The stock of wool, both fleece and pulled, is light. Very little can be said about prices, as they depend much upon the necessities of the purchaser. It may be observed, however, that though the stock on hand is small, prices have somewhat receded; the manufacturers of some styles of goods, preferring to work short time, or stop altogether, (after working up their stocks on hand,) rather than pay the high prices of January and February last. Some of them finding that they could realize a greater profit by selling their wool than by working it, have adopted that course. Wool of the ensuing clip is being contracted for in some of the Western States, particularly in Ohio, at highes rates than the prices in the eastern markets, even now, will warrant.

We quote full blood Saxon,	50 to 55
" " Merino,	46 to 48
¾ " Merino,	42 to 44
Native to ¼ Merino,	37½ to 41

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

May 1—1t. G. H. BARR.

Palmer's Patent Leg.

Manufactared by Palmer & Co., Springfield, Mass

New-York State Agricultural Rooms, Sept., 1850.

Extract from the report of the Committee to whom was referred Palmer & Co.'s Artificial Leg:

PALMER & CO., Springfield, Mass. An Artificial Leg, which seems to be an admirable substitute for the real, being wonderfully adapted to perform the various functions of the natural limb. A Silver Medal. B. P. JOHNSON, Cor. Sec'y.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel WOOL on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for CASH.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

I. T. GRANT & CO'S
Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fai s. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Mowing Machine Wanted.

THE subscriber wishes to procure a Mowing Machine, which can be driven with two moderately sized horses, without extra exertion—one that will mow closely, and which will conform itself to slight elevations in the ground.

Information directed to me, at Durham, Connecticut, will be thankfully received. DAVID LYMAN.

May 1—1t.

600 Barrels of Bone Charcoal or Burnt Bones, ground, at $2.00 per Barrel, for sale, by G. H. BARR,
No. 25 Cliff st., New-York.

May 1—1t.

Important to Wool Growers.

I PROPOSE to sell twenty-five pure Pauler Merino Ewes, with Lamb, by a French Merino Buck, purchased of A. L. Bingham of Vt.; also twenty-five yearling Ewes, from my Pauler Ewes and French Buck; also a few choice Bucks. My flock originated from *R. V. R. Horton's flock, Rutland county, Vt. I purchased eleven Ewes and one Buck in the winter of forty-five; I have also had Bucks of Avery of Saratoga, at different times. I will sell at prices within the reach of common Farmers.

Otisco, May 1—2t. N. H. NOYES.

P. S.—Any one wishing to get some good sheep could satisfy themselves by calling at shearing time. Any information wanted address N. H. Noyes, Otisco, Onondaga county.

* A description of Mr. H.'s sheep can be found in the vol. of the Cultivator published in forty-five and six.

New Subsoil Plow.

THE subscriber offers for sale an improved Subsoil Plow, made under the advisement of Professor J. J. Mapes, and free from the objections urged against those formerly in use. The wearing parts are so arranged that they may be easily and cheaply renewed; while the amount of force requisite to move them is less than half that required by those previously made.

Price for No. 1, plain	$7 00
" " with Draft Rod	8 50
" No. 2, " "	11 00

To be had at the State Agricultural Warehouse, No. 25 Cliff street, New-York. May 1—1t. G. H. BARR.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

Anti-Pyric Paint, Fire, Weather, and Water Proof.

Manufactured by THE NEW-YORK ANTI-PYRIC PAINT COMPANY, for the roofs of Dwellings, Warehouses, Bridges, Fences, and all Articles that require Protection from Fire, Weather, or Water.

TO THE PUBLIC.—The Anti-Pyric Paint Company are prepared to fill orders for their incomparable Anti-Pyric Paint. They wish it to be distinctly understood, that their Paint is distinct from any of the various *ground rocks, slates, clay or mud*, which are puffed and sold in the market as fire proof paint. The Paint offered by this Company is manufactured from proper materials only, scientifically prepared and combined and as such it is offered to the public, with the full assurance that in its protective properties against Fire and the Elements, it is superior to any article ever used in the form of Paint; and that, after all the earths and native Paints, (so called) have had their day and failed, the Anti-Pyric Paint alone will maintain its reputation as a perfect protection against the weather, falling sparks or cinders, and a not too immoderate heat from the direct action of Fire. It has no deleterious articles in it, will not crack, peel off, or wash away, but hardens by time and becomes permanent and imperishable by age! Thousands have used it for the last three years without a single failure.

Constantly on hand and for sale at the Depot of the Company, by GEO. G. SHEPPARD, their sole agent, 187 Water street, New-York, where may be had Certificates of its qualities, and full directions for using it. May 1—2t.

1000 MEN WANTED

TO CIRCULATE THE FOLLOWING

USEFUL BOOKS FOR FARMERS,

And all who are interested in Agriculture, Horticulture, &c.

C. M. SAXTON,

AGRICULTURAL BOOK PUBLISHER,

123 Fulton st., [up stairs,] New-York,

TAKES pleasure in announcing to the Farmers, Gardeners and Horticulturists of the United States, that he has added a large number of Books to his list of Publications, and is prepared to offer great inducements to Travelling Agents, and here let it be distinctly understood that, as we do business on the CASH PLAN, it will be necessary for persons who apply for an agency to have a capital of from $25 to $100, to start with,—and with such an assortment, adapted to the actual wants of the "People," no person with the right kind of energy can fail to make good wages. In fact it is a RARE CHANCE for Agents to MAKE MONEY. [Address post paid,]

C. M. SAXTON, Agricultural Book Publisher,
No. 123 Fulton street, [up stairs,] New-York.

American Farm Book; or, Compend of American Agriculture. Containing a concise and plainly written Exposition of Duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c., &c., on practical scientific principles. By R. L. ALLEN. Price, in cloth, $1; mail ed., paper cover, 75 cents.

Treatise on Domestic Animals [Illustrated.] Being a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs, with Directions for their Management, Breeding, Crossing, Rearing, Feeding; also, Directions for the Management of the Dairy. By R. L. ALLEN. Price, cloth, 75 cts.; mail ed., paper cover, 50 cents.

American Poultry-Yard. Comprising the Origin, History, and Description of the different breeds of Domestic Poultry, with Directions for their Breeding, Crossing, Rearing, Fattening, &c. By D. J. BROWNE and SAMUEL ALLEN. Illustrated by numerous Engravings. Price, cloth, $1; mail ed., paper, 75 cts.

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Treatise on the Cultivation of the Grape-Vine on Open Walls, with a descriptive account of an Improved Method of Planting and Managing the Roots of Grape-vines. By Clement Hoare. To which is added an Appendix, containing Remarks on the Culture of the Grapevine in the United States. Price, cloth, 50 cts.; paper, 37 cts.

Elements of Agricultural Chemistry and Geology. By James F. W. Johnston. Price, cloth, 50 cts.; paper, 40 cts.

Lectures on the Applications of Chemistry and Geology to Agriculture. By James F. W. Johnston. New edition, with an Appendix, containing Suggestions for Experiments in Practical Agriculture. Price. cloth, $1.25 cts.; paper cover, for mail, $1.

Lectures on the General Relations which Science bears to Practical Agriculture, delivered before the New-York State Agricultural Society. By James F. W. Johnston. With Notes by an American Farmer. Price, cloth, 75 cts.; mail ed., paper, 50 cts.

Family Kitchen Gardener. Containing plain and accurate Descriptions of all the Different Species and Varieties of Culinary Vegetables, with the Best Mode of Cultivating them in the Garden, or under Glass, &c.; with twenty-five Engravings. By Robert Buist. Price, cloth, 75; paper, 50 cts.

American Bee-Keeper's Manual. Being a Practical Treatise on the History and Domestic Economy of the Honey-Bee. By T. B. Miner. Price, cloth, $1; paper, 75 cts.

Sheep Husbandry. Comprising a Treatise on the Acclimation of Sheep in the Southern States; also, a Complete Manual of Breeding, Summer and Winter Management, and of the treatment of Diseases, with seventy-five Illustrations. By Henry S. Randall. Price, cloth, $1.25; paper cover, for mail, $1.

Book of the Farm. Detailing the labors of the Farmer, Steward, Plowman, Hedger, Cattle Man, Shepherd, Field Worker, and Dairy Maid. With numerous Engravings. By Henry Stephens. To which are added Explanatory Notes, Remarks, &c. By John S. Skinner, Esq. Forming two volumes octavo, of over one thousand pages. Price $4.

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American Fruit Culturist. Containing Directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with descriptions of the principal American and Foreign varieties. Illustrated with three hundred accurate Figures. By J. J. Thomas. Price, cloth, $1; paper, 75 cts.

The American Architect. The cheapest Architectual work ever published in the United States. Carpenters and others designing to build, would find this publication to be a valuable aid. Country builders, especially, would derive substantial assistance from the Details and fully-particularized Specifications. It consists of Original Designs of Country Dwellings. Each number contains a Perspective View, two Elevations, two Plans, a Plate of Details, and fully described Carpenter's and Mason's Specifications. Now complete, in 24 Numbers, at 25 cts. each, or $5 for the 24 Numbers, $6 bound in 2 vols.

Domestic Medicine; or, Poor Man's Friend in the Hours of Affliction, Pain, and Sickness. By J. C. Gunn. It contains 900 pages octavo, at the low price of $3.

Youatt and Martin on Cattle. Being a treatise on the Breeds, Management and Diseases, comprising a full History of the Various Races, their Origin, Breeding and Merits, their *Capacity for Beef and Milk;* the nature and treatment of their Diseases; the whole forming a *Complete Guide* for the Farmer, Amateur and the Veterinary Surgeon, with over 100 Illustrations. Edited by AMBROSE STEVENS. Bound in cloth, $1.25.

Youatt on Sheep. A new edition just ready. Price, 75 cts.

May 1—1t.

VALUABLE BOOK.

ERASTUS H. PEASE & CO. 82 State-Street, Albany, publish

Elements of Scientific Agriculture, or the connection between Science and the Art of Practical Farming. (Prize Essay of the New-York State Agricultural Society.) By JOHN P. NORTON, M. A., Prof. Scientific Agriculture in Yale College. 12mo. cloth, extra.

Brief extracts from a few of the many testimonials:

We agree with the Report of the Committee of the New-York State Agricultural Society, and our friends in the neighboring states, and commend this work to the attention of Farmers and Teachers in Canada.—*Toronto Globe, Jan.,* 1851.

☞ At a meeting of the Regents of the University, in October last, it was

On motion, resolved, that the study of Agricultural Chemistry, be deemed one of the higher branches of English Education, and that it be so recognized in the annual distribution of the amount granted to academies.

Resolved, That the committee on the establishment of Common School Departments in Academies, of which the Secretary of State is chairman, be instructed to inquire, whether this study should not be required of all students in said departments.

The Proceedings of the St. Johns Agricultural Society of the British Province of New-Brunswick, show that they have procured 1,000 copies, for distribution among the Agricultural Societies of that Province.

The subject is very ably discussed, and elucidated in clear and comprehensive language, such as would not discourage the young inquirer, nor dissatisfy the adept in such branches of scientific research. The task is well done, and we feel indebted to Prof. Norton for opening another pleasant avenue to agricultural knowledge and practice.—*Maine Farmer.*

This work is published under the immediate auspices of the New-York State Agricultural Society, and is a full, complete, and comprehensive exposition of the fundamental principles of practical and scientific agriculture. We trust it may find its way into every School District Library in the state—*District School Journal.*

Our high expectations have been fully met. Prof. Norton, has a common sense way of presenting the various topics connected with agricultural science, and it is to the *common sense* of every man that his conclusions commend themselves. Would that every farmer in Michigan were in possession of this book.—*Michigan Farmer.*

There is not a printed book in the Union which could have been more acceptable. We are but novices in the great art of agriculture, and any thing that will give us light, we hail with gratitude and pleasure. We shall, from time to time, give our readers extracts from the work.—*Columbus* (*Ga.*) *Enquirer.*

We doubt not the judgment of the New-York State Agricultural Society, who awarded to it its prize, will be fully confirmed by the community.—*The New-Englander.*

We should be happy to see it introduced into all the schools, and the family of every farmer in this country.—*Canadian Agriculturist.*

Its language is plain, its illustrations simple. It is a work for the farmer, and the farmer should read it, and teach it to his children.—*Genesee Farmer.*

Orders from County Societies, Schools, and individuals, invited. Liberal terms offered, where considerable quantities are ordered.

May 1—1t. E. H. PEASE & CO., 82 State-st., Albany.

The Mambrino Horse Washington.

THIS Celebrated Horse will stand the present season at North Ferrisburgh, Addison County, Vt. Washington was bred by John Thorn of Washington, Dutchess County, N. Y.—is a beautiful dark bay, over 16 hands, well proportioned, having great action, and possessing a great share of bone and sinew. Washington was got by Mambrino Paymaster, and Mambrino Paymaster by Mambrino, and Mambrino Paymaster's Dam by the imported Horse Messenger. Washington's dam by Mount Holley, grand-dam by True Britton, Mount Holley by the imported Horse Messenger, and dam by Bagazette. It will be readily perceived that Washington combines the best blood ever imported to this continent, and is adjudged to possess more good points and symmetry of proportion, than any other horse of his age, having taken the First Premium at the Dutchess County Agricultural Fair, in the fall of 1847, and the First Premium at the Addison County Fair last fall, on a field of eleven stallions, most of which were the stock of the original Black Hawk. All who are desirous of raising high-priced horses, are requested to call and examine the Horse and his stock.

THOMAS R. NOONAN
ANDREW HOLMES.

May 1—2t* Proprietors

EMERY & CO.'S

New-York State Agricultural Society's

FIRST PREMIUM

RAILROAD HORSE POWER,

AND

OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Rail Road Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and in competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust. and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommand and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines. and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,..................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.,............	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use................		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,.................	$75
Two Horse Power,.................	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

D. APPLETON & CO.,

PUBLISHERS, 200 Broadway, New-York.

Downing's Cheap Cottages and Farm Houses, adapted to the United States. Price $2.00.

THIS volume is Part I. of Downing's "COUNTRY HOUSES." published separately, at half the price of the entire work. It contains numerous designs for Cottages and Farm Houses, of moderate cost, varying from $400 to $4,000, and will be found especially adapted to the wants of the American people, who wish to build convenient, comfortable, and tasteful homes, at a very moderate expense. The volume contains all the latest improvements in building, and the use of materials, with plans for barns and stables, and much valuable practical information on the construction and arrangement of Cottages, both in the country. and the suburbs of towns.

*** Part II. of this work contains Villas, with the Interiors and Furniture of Country Houses, remarks on Warming and Ventilation, etc.

The whole work complete, called the "ARCHITECTURE OF COUNTRY HOUSES," with three hundred and twenty engravings, is sold at $4.00.

NOTICES OF THE PRESS.

"This book will effect more in the way of making a general and healthy taste for Architecture, even in the cheapest dwellings, than anything which has yet been issued from the press."—*N. Y. Courier and Enquirer.*

"This work is eminently a contribution to knowledge, a combination of just such knowledge as was wanted, and the general communication of which, to the minds of our wide-spread population, will accomplish an inestimable service. If our mechanics and tradesmen in moderate circumstances, will consult the Drawings, they will find that very limited pecuniary resources are sufficient to secure a dwelling that will satisfy their necessities, and minister to their comfort. as no paste-board Villa or Gingerbread Castle, ever could."—*New-Englander.*

"No work of more practical and general value, has been issued from the American Press for a long time."—*Albany Atlas.*

"Mr. Downing has a great and deserved reputation, but he has never before produced so elaborate and splendid a volume as the Country Houses."—*Boston Post.*

May 1—1t.

Barry's Fruit Garden.

CHARLES SCRIBNER, (Late Baker & Scribner,) New-York, has just published the FRUIT GARDEN, a Treatise intended to illustrate and explain *The Physiology of Fruit Trees, The Theory and Practice of all operations connected with the* PROPAGATION, TRANSPLANTING, PRUNING AND TRAINING OF ORCHARD AND GARDEN TREES, AS STANDARDS, DWARFS, PYRAMIDS, ESPALIERS, &c.- *the Laying out and arranging different kinds of Orchards and Gardens, the Selection of Suitable varieties for different purposes and localities, Gathering and Preserving Fruits, Treatment of Disease, Destruction of Insects. Descriptions and Uses of Implements, &c.,* ILLUSTRATED WITH UPWARDS OF ONE HUNDRED AND FIFTY FIGURES, representing Different Parts of Trees, all Practical Operations, Forms of Trees, Designs for Plantations, and Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

CONTENTS.

PART I. Describes the different parts of Fruit Trees—Roots, Stems, Branches, Leaves, Blossoms and Fruit; explains their different Characters, Functions, and Practical Classifications. It treats, also, of soils and manures, of the best Modes of Propagation, and the General Principles and Practice of Pruning.

This part is a new feature in Treatises of this kind, and is intended to be the ground-work of all the operations of culture.

PART II. Treats of the Propagation and Management of Trees in the Nursery in detail, both Standards and Dwarfs. beginning with the Stocks, and ending with taking up the Trees. The various kinds of Stocks, their particular Uses, &c., are all correctly described.

PART III. Treats of the Laying Out and Arrangement of different kinds of Orchards and Fruit Gardens, the selection of Trees and Varieties, Planting, Pruning and Training of Standards, Dwarfs, Pyramids, and various other forms. in a manner not attempted in any other American Treatise, and calculated to furnish important information much sought for at this time.

PART IV. Contains Abridged Descriptions of all the best Fruits of well established merit. with selections for various purposes and localities, and lists of new and promising varieties; also, a chapter on Diseases and Insects; another on Gathering and Preserving Fruits, and one on the more important implements used in Fruit Culture. The work is so arranged that any branch of the subject can be readily referred to, and contains upwards of one hundred and fifty figures, illustrating the different parts of Trees, different forms. Modes of Propagation, Pruning, Training, &c.

CHARLES SCRIBNER,
36 Park Row and 145 Nassau-st.

May 1—1t.

Wm. Croasdale's Patent Seed Drill and Broadcast Sower.

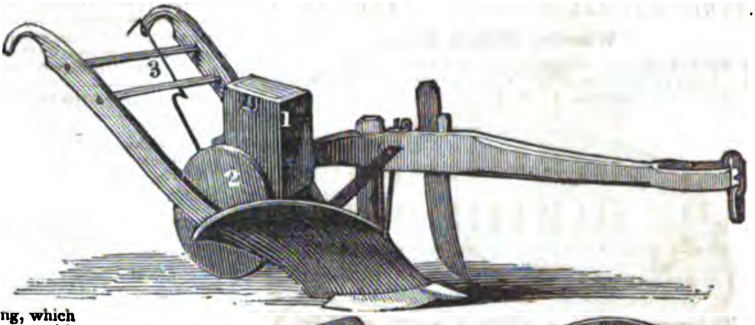


Figure A shows the Plow and Drill complete. No. 1 is the *Seed Chest*—No. 2 is the *Driving Wheel*—No. 3 is an *Iron Rod* to stop the planting by raising the wheel clear of the ground—the Rod being made to hook on the lower round of the plow for this purpose.

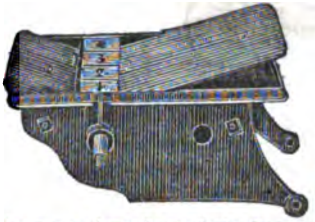


Figure B shows the Drill without the Seed Chest—the opening to let out the seed is closed by four small shutters moving on hinges—No. 1 is opened for *Turneps*, *&c.*—No. 2 for *Peas*, *&c.*—No. 3 for *Wheat*, *Rye*, *&c.* No. 4 *Corn*.

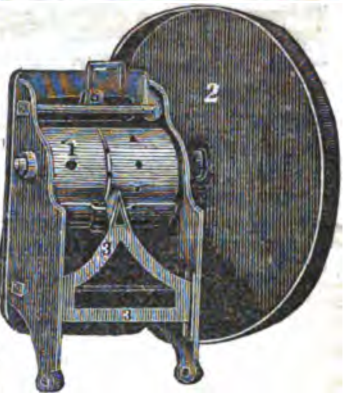


Figure C is the Drill turned up so as to show the under side whence the seed is let drop. No. 1 is the *Cylinder*; No. 2 the *Driving Wheel*. No. 3 is the *Spreader* for broadcast sowing, which may be taken out or moved back when you wish to plant in *drills*. A different spreader will be furnished when narrower drills are required.

THE manifold advantages of drilling-in wheat over the *usual* method of sowing *broadcast*, are now universally conceded by the informed practical farmer, and it has long been a desideratum to find a simple, convenient and effective apparatus for drilling, at a price which would place it within the reach of all. This drill is offered to the agricultural community with the confident belief that it will fully meet this want. Adapted in its construction, not only for drilling-in wheat, &c., but also for planting corn and other seeds, and so arranged as to be attached to the common furrowing plow, and to perform perfectly its work while the indispensable process of plowing is going on, without any additional labor, it must be apparent that it has great advantages over any other seeding machine yet invented.

It is affirmed by those who have used this Drill, that one and a half bushels of wheat to the acre put in with it, are fully equal to two bushels sown broad cast, in the usual way: first, because of the exact regularity with which the seed is deposited in the ground, and secondly, being all covered at uniform depth, the seed is protected from the birds, and from the effects of freezing and thawing weather of the winter; and thirdly, the seed being properly covered, every blade will have good root and the crop be better prepared to withstand drouth.

Thus any farmer who sows only twenty acres of wheat will save in seed alone, the first year, by the use of this Drill, its entire cost, besides having his crop put in better than it can possibly be done by hand, and with less labor.

Corn may be planted with these Drills in hills of one, two, or four feet apart at the first striking out, thus saving the cross furrowing, and also the labor of dropping. Drills can also be made to order, to plant corn in hills at *any* distance apart that may be required.

These Drills are now set to sow one and a half bushels of wheat, weighing 60 lb. to the bushel, to the acre, in furrows ten inches wide. It will also sow wheat broadcast, perfectly, by attaching the spreader directly under the *wheat* cavities. Full directions for *changing* the quantity per acre, with other information, may be found on the inside of the lid.

By actual experiment it has been found best not to plant deeper than three inches.

Manufactured and for Sale by JOHN G. BRENNER, 41 Market street, Philadelphia, and WM. H. CARR, No. 5 Commerce street, Philadelphia.

RECOMMENDATIONS.

Hartsville, July 22, 1850.

Mr. Wm. H. Carr.—Dear Sir: You ask my opinion of William Croasdale's Patent Seed Drill; last fall I used the first or second one that was made, to put in my wheat, and do not hesitate to say, that I consider it superior to any Drill that I have ever seen, combining more advantages. It works to perfection, is not liable to get out of order, being simple in construction, and being so well adapted to so many kinds of seeds, think it must to a very great extent take the place of all others.

The low price is also an important consideration, as it brings it within the means of every farmer, but I would prefer it to any that I have seen, costing five times as much, or more. Respectfully yours,
GEORGE BROWN.

We the subscribers, having used William Croasdale's Patent Seed Drill, or seen it used, and seen the wheat planted with it in its various stages from the planting to its maturity, do unhesitatingly recommend it as the best and most economical, combining more advantages than any Drilling machine we have seen. Its adaptation to so many various kinds of seed, Wheat, Rye, Corn, Broom Corn, Turnip Seeds, &c. &c., the certainty of distributing the exact quantity required either in drills or scattered over the furrow, the saving in labor and seed, its fitness for any land where a plow can be used for plowing-in, and the low price of the article, (which will be saved in seed alone in the planting of 20 acres,) bringing it within the means of all, are important considerations, and certainly give it a decided advantage over the large Drills, or any that we have seen in use.

JOHN ENGART, Warminster township, July 24, 1850.
JAMES WALLACE, Warwick, July 24, 1850.
WM. H. LONG, Warminster township, July 24, 1850.
ROBERT B. FORTEN, Warminster township, July 24, 1850.
THOS. W. F FORTEN, Warminster township, July 24, 1850.
CHARLES BIRD, Hartsville, July 24, 1850.
JOSEPH CARR, JOSEPH CARR, Jr.. JOHN DUNLAP, ANDREW CRAVEN, HIRAM A. CARR, THOMAS BIRD, SAMUEL CRAVEN, JOHN B. RAMSEY, JOSEPH HART, Warminster township, July 25, 1850.

Newtown, November 21, 1850.

I certify that I used Croasdale's Patent Seed Drill in putting in a portion of my wheat, in September last. The wheat drilled in was one bushel and a half per acre; the adjoining land was sown broadcast at the rate of two bushels an acre. The drilled wheat came up quite as thick and much more vigorous than that sown broad-cast, and I think is larger at the present time. I am perfectly satisfied with the operations of this drill. It scatters the seed most satisfactorily over the furrow, and saves the labor of harrowing the ground. From the appearance of the wheat, I now regret that I had not put my whole crop in with the Seed Drill. PHINEAS JENKS.

P. S.—This DRILL can also be adapted to the sowing of Guano.
Price $12 50. Philadelphia, May 1—1t.

DAIRY SALT.

THE attention of Dairymen is particularly called to a very superior article of STEAM REFINED ROCK SALT, prepared expressly for the Dairy at the City Steam Mills, Albany.

The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by C. N. BEMENT,
March 1—3t. 11 Hudson street, Albany.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50.000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire*, *Water*, *Accidents and Disease*.

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President*. B. S. Whitney, *Secretary*. Wm. Burtch, *Trasurer*.

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

DEVON BULL.

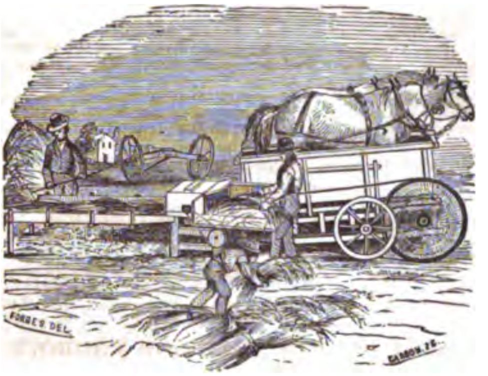
FOR sale, a full bred Devon Bull, 3 years old in July last, bred by H. N. Washbon, Otseso county, from the celebrated stock of Mr Patterson, Baltimore. A choice animal, and a good stock getter. Price $100. J. W. COLLINS.
Smyrna, Chenango Co., N. Y. April 1.—2t

New-York State Agricultural Works.

AGRICULTURAL MACHINES & IMPLEMENTS.

Wheeler, Melick & Co.

CONTINUE their manufactory at the corner of HAMILTON and LIBERTY STREETS, ALBANY, where they are prepared to fill all orders with despatch. Orders for


FORBES DEL.
CARSON FE.

Wheeler's Patent Railway Chain Horse Powers

and OVERSHOT THRESHERS and SEPARATORS, will receive their prompt attention.

☞ The large and increasing demand for these Machines has induced the Proprietors to erect a New and Spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the First Premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs, together with numerous County Exhibitions in the different States.

THE TWO HORSE MACHINE, with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

PRICE AT ALBANY:

For Two Horse Machines,........................ $145 00
For one Horse do, ... $120 00

Machines will be shipped to any part of the United States or the Canadas.

The subscribers are now shipping Powers and Threshers to their agents on the Mississippi and Ohio rivers, and in the interior of the States, bordering on those rivers, and to all the principal ports on the Lakes, as well as to their numerous agents in the interior of the Lake States. They will be delivered at all our agencies with only the cost of transportation added to our home prices. Persons wanting to purchase, may by writing to us, learn where they can obtain our machines most conveniently.

N. B.—*Our* Machines *are warranted* as heretofore *to work to the satisfaction of the purchaser*, or they may be returned within 60 days after they are received, and the purchase money (if paid) will be refunded.

We want a few more agents in most of the States. To competent men who can give satisfactory references, liberal commissions will be allowed. WHEELER, MELICK & CO.

Corner of Hamilton and Liberty-streets, Albany, N. Y.
April 1, 1851. (near the Steamboat Landing.)

CAUTION.

THE subscribers, patentees of WHEELER'S PATENT HORSE POWERS, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our patent, we hereby caution all persons that said Firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the purchaser to use such Power.

Messrs. WHEELER, MELICK & Co., of Albany, and their agents, are the only persons authorised to make or sell Wheeler's Patent Horse Powers; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles, at each end of the Power, the words

"Wheeler's Patent—Wheeler, Melick & Co., Makers, Albany, N. Y."

A due attention to this fact will enable Purchasers to avoid imposition and fraud.

No person or firm in Albany, except WHEELER, MELICK & Co., is authorised to make or sell said Horse Powers.

April 1. A. & W. C. WHEELER, Patentees.

Just Published,

A PRACTICAL Treatise on the Construction, Heating and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, and other kinds of horticultural structures, with practical directions for their management, in regard to light, heat, and air, with numerous engravings, by Robert B. Leuchars. Price $1. For sale by J. M. THORBURN & CO., 15 John street, New-York Feb. 2

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.
Also, *Eagle Center-Draught*, and all Plows in general use.
Corn Shellers, with single and double hoppers.
Straw Cutters—Hoveys's, Green's, Sinclair's and others.
Horse Powers—Badger's Improved, and Bogardus' Patents
Fan Mills—Grant's Premium, and Clow's Rotary Screw.
Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "THE LODI MANUFACTURING COMPANY, NEW-YORK," *post-paid.* April 1, 1851—3t.

The Morgan Horse, Young Gifford.

THIS fine Horse, of the genuine Morgan breed, will stand the coming season, at the stable of the subscriber, in Farmington, Ct., for the use of Mares. Young Gifford was bred in Walpole, N. H., and was got by Old Gifford Morgan, his dam a pure Morgan. He will be four years old in May next, and is one of the best specimens of this distinguished breed. The Morgans are so well known and admired throughout New-England, that it is unnecessary to repeat their merits.

TERMS—$5 dollars for a single service. $8 the season. $10 insurance. WM. L. COWLES.

Farmington, April, 1851—2t.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and aried assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.
March 1—tf. 197 Water Street, New-York.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of Full Bred Short-horns and Improved Dairy Stock, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. Ishall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the First Prize as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will b[illegible] be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention.

CALVIN MORSE,
April 1, 1851—3t. I. T. GRANT.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

Seeds.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar.

A. B. ALLEN & CO.,
Merch 1—tf. 189 and 191 Water street, New York.

GREAT SALE OF SUPERIOR THOROUGH

Bred Short-horn Cattle.

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan Stallion, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Mares will be pastured at a reasonable price—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.

Bridport, Vt., March 1—4t.

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Reaping, Mowing and Hemp Cutting.

HUSSEY'S REAPING AND MOWING MACHINE.

IT is now eighteen years since the subscriber first introduced his Reaping Machine into the State of New-York. It then cut two and a half acres [illegible]ne hour and twenty minutes, and in the language of an old and [illegible]ienced farmer of that day, "*It cheated the hogs.*" As the farmers of Western New-York appear to be yet unacquainted with the real merits of the Machine, for want of procuring those of Baltimore make, the following letters are respectfully offered for their perusal.

Utica, Lasalle Co., Illinois, Dec. 14, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: I received your Reaping and Mowing Machine in time for harvest. I used it for harvesting and for mowing. I am fully satisfied that your Machines are the best yet offered to the farmers of this state. I have mowed about four hundred acres, a great portion of which was wild prairie, very frequently running against both stones and ant heaps, with sufficient force to throw both driver and raker off the Machine, without injury to the Machine. Why your Machine is preferable to all others, is, after you have cut your different kinds of grain, ully as well as can be done by any other Machine, with not over fifteen minutes work, you can take the same machine into your meadow, or on to the prairie, and cut your grass at the rate of ten acres per day, cutting it closer and cleaner, than can be done with the scythe. With proper care, your machine will last fifteen or twenty years with trifling repairs. Very respectfully yours. JAMES CLARKE.

P. S. There is an imperfect Machine, [your patent,] made on Fox River, which has failed in every instance that I have heard from. Your attention to this will confer a favor on the farmers of Illinois, as those imperfect Machines are extensively scattered over the state.

Island Grove, Sangamon Co., Ill., Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: Last summer I received two of Hussey's Reaping and Mowing Machines, one from your own shop in Baltimore, and the other manufactured in this state. Unfortunately for me, I retained the one manufactured in this state, and with difficulty succeeded in cutting about two hundred acres of wheat and grass. The one from your shop I let Mr. John Simms have, who cut his wheat, oats and hay, about seventy-five acres, with perfect satisfaction and ease, most of it with two horses, and without being obliged to grind the knives. After Mr. Simms finished his harvest, he let Mr. J D. Smith, of Island Grove, have it, who cut about three hundred acres of grass with it, the machine giving perfect satisfaction. Very respectfully yours. EDWARD J. ENO.

Springfield, Ill., Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: I have used one of your Mowing and Reaping Machines, and consider it the best Machine I ever saw, and never intend to do without one, if it is possible to get one, even if I have to go to Baltimore and remain at the shop till one can be made. I do candidly believe that if I had had one ten years ago, I would now feel like a much younger man—and cheerfully recommend them to all who have grass or grain to cut, as a Machine that will do their work in perfect order, neatness, and with ease to all employed, JOHN SEMMS,

4 miles west of Springfield, Ill.

Carrolton, Green county, Ill., Dec. 27, 1850.

I procured one of Mr. Hussey's Reaping and Mowing Machines from Baltimore last spring. I cut eighty acres of wheat, and ten acres of oats, and fifty acres of timothy with it, to my entire satisfaction. After which I cut sixty acres of Clover seed with it in less than five days. I could not have saved the clover seed without the machine, so I consider I saved the whole cost of the machine in the saving of clover seed alone. SAMUEL THOMAS.

Springfield, Ill., Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: During the harvest of August, 1849, with one of your Machines, I cut sixty acres of hemp, using a set of four and a half feet knives and guard, and two teams, of four horses each, changing every two rounds, which cut on an average eight acres per day. This last harvest, the same single machine, with six foot guard and knives, operated by the same force, cut successively two hundred and fifty acres of Hemp, or from ten to twelve acres per day. From this experience, I take pleasure in recommending your cutters above the Hemp cradle and hook, not only as a labor saving, by the expedition with which they cut, but as Hemp saving, from the perfect thoroughness, evenness, and nearness to the ground, with which they do their work, and the regular, and collected form in which they leave the Hemp after being cut.

Yours respectfully, EDWARD S. COX.

Naperville, August 27, 1849.

A few days since, Mr. Hussey came to this place with his Reaper, manufactured at Baltimore, to exhibit to the farmers of Du Page county. His first trial here, was in a piece of Hedgerow Wheat, on new land, and very heavy, but standing up well, and in good order for cutting. It did the work well, and very fast, as grass and weeds were no impediment. We next went into a piece of Black Sea Wheat of fourteen acres, a part of which was nearly flat on the ground, and lying in all directions. I had no idea, that it could be cut by any machine, but to my astonishment, it worked as free and easy as if the grain were standing up; we frequently went round the piece on a trot. We were visited in the course of the day by from fifty to seventy persons, who were all well pleased, and thought we were doing better work than they had ever before seen done by any other machine. Although I had two other machines in my field, could I have kept the Hussey Reaper through my harvest, and abandoned all others, I should have finished several days sooner, and did my work much more to my satisfaction. MORRIS SLEIGHT.

It should be understood, and the subscriber will here state the fact, that the persons whose names are subscribed to the foregoing, are well acquainted with the different reapers used in the western states.

He will state another fact, to wit: The reaper so often spoken of in the west, first appeared in Virginia, in competition with his own. It has now nearly disappeared, and Hussey's Reaping Machine is now rapidly taking their places. All orders must be directed to the subscriber in Baltimore. OBED HUSSEY.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

LOUIS AGASSIZ, LL.D., Professor of Geology and Zoology.

JEFFREYS WYMAN, M. D., Professor of Comparative Anatomy and Physiology.

HENRY L. EUSTIS, A. M., Professor of Engineering.

EBEN NORTON HORSFORD, A. M., Professor of Chemistry.

Instruction is also given by Professor PIERCE in Mathematics, Prof. LOVERING in Physics, and the Messrs. BOND at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Bone Manure.

A VERY superior quality of BONE DUST, finely ground, and warranted pure, is now prepared at the EAGLE MANUFACTURING Co., for *Farmers and Gardeners*. It is perfectly dry, packed in tight barrels, and will keep sound in any climate. Apply to

May 1—1t* ALFRED T. KEMP, 62 Beaver-st., New-York.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.

Fresh Garden Seeds, a large assortment of the various kinds Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoe[illegible]c

Guano, *Bone Dust*, *Poudrette*, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto. A. B. ALLEN & CO.,

March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, JUNE, 1851. VOL. VIII.—No. 6.

Progress of Agriculture.

Suggestions in Relation to Improvements.—No. VI.

HAVING noticed some of the principal improvements which have been achieved in agriculture, we would now call attention to several subjects to which efforts for further improvements might be profitably directed.

1. The greatest defects in American agriculture at the present time, arise chiefly from *carelessness and waste*. The disregard of order, system and economy, is the bane of our farming. It is the occasion of constant and immense loss in many ways. The most striking example of this, perhaps, is the great negligence in regard to the saving of manures. Notwithstanding the frequency with which this subject has been brought to the attention of farmers, there is scarcely a neighborhood in which many instances of the neglect and loss alluded to, are not seen. On most farms there is nearly a total loss of the urine of the stock, during the time it is kept at the barn; and even the other portion of the excrement is often so much exposed that one-half its value, probably, is lost. It is often washed into the highway, and is seen in the coloring of the water of brooks, which carry off the soluble portions. It would not, probably, be an over estimate of this loss, to say that with many farmers, it is more than equal to the money they pay in taxes.

This loss might be almost wholly prevented, and with but little comparative expense. The first thing towards this would be to use plenty of substances to absorb all the liquids of the stables and yards. Cellars under barns and stables, where the shape of the ground would render it convenient to make them, would be preferable, as receptacles for manure, to any other plan. Where cellars are not made, there might be excavations under the stalls, and being filled with muck, peat-charcoal, or charcoal dust, the urine would be retained in a form convenient for application to the soil. Yards should be so formed by means of embankments, if necessary, that there will be no soak or wash from them. If the roofs of the buildings throw more water on the manure than is sufficient to keep it moist, (not wet) gutters and spouts should be put up to lead the water off.

The practice of having plenty of water in barn-yards, should be more general. In many instances animals sustain much injury from the want of this requisite, and much valuable manure is lost from the same cause.

2. More attention should be given to neatness in farm management, especially in preventing the growth of pernicious plants, and in keeping fences and buildings in repair. There is a general carelessness—in many instances a downright slovenliness, evinced in this respect, which detracts much from the beauty of the country, and at the same time greatly depreciates the value of the land. It is astonishing that this matter should be so little regarded. It is not uncommon to find the door-yards of farm-houses grown up to thistles, burdocks, &c. Sometimes a half acre or more of the best land the farm affords, is thus appropriated as a seed-bed for the propagation of these vile things, and from which they are scattered round the country. Even the spot misnamed "the garden," frequently has a wide border, which, perhaps, amounts to one-half its area, wholly filled and occupied with weeds and bushes.

The injury from these foul plants is much greater than is generally supposed. They increase the expense of cultivation, lessen the yield, and debase the quality of crops. When the soil is full of weeds, they often get the start of crops, and smother them down. In broadcast crops, it is hardly practicable to eradicate weeds, and they run to seed—the seed mingles with the grain and depreciates its value in market. Much of the choicest land in the country has been greatly deteriorated in value, by this careless cultivation and the consequent growth of weeds. In some of the western states, this has been strikingly the case.

It should be a standing rule with farmers to prevent weeds from seeding. This will at least prevent their increase, except with those species which spread by the root. In addition to this, the thorough extermination of all noxious plants should be followed up at every convenient opportunity. These efforts should not be confined to the limits of the farm; but the sides of highways, rail-roads, and all public thoroughfares should be guarded with the same attention. There is a law in this state requiring thistles, which grow on the banks of the canals, on the sides of railroads, &c. to be mown twice a year, but the work is often neglected, or done in so poor a manner, that the object sought is not attained. They should be cut *close to the ground*, while in blossom, but before any seed is formed.

3. We need a more appropriate division of farms, as regards wood-land and cultivated fields, and a better adaptation of the various portions to those purposes most consistent with the nature of the soil, and general appearance of the country. This is a matter which receives but little attention from farmers. An indiscriminate destruction of forest trees has been made in many instances, when the land was first occupied, and a new

growth has not been allowed to take its place. The consequence is, that much land which would have produced trees, and nothing but trees—as the rocky points of hills, barren knolls, the sides of gullies—have been left naked, and the soil, having nothing to hold its particles together, has been washed to sterility. Another injury which has ensued from this destruction of trees, is the greater exposure of many situations to the force of winds. In this climate, subject as it is to extreme heat and cold, trees are important as a means of shelter. A border of trees, even of not more than a rod in width, on the north and west sides of fields, will produce a very favorable effect in breaking off the cold blasts. This is particularly required on hill and mountain pastures, and also in open champaign districts, like the western prairies. There should also be trees in proper places for shade, as animals exposed to the full blaze of our intense summer sun, suffer greatly from its effects.

All steep hill-sides, gorges and gullies, should be left in trees, or planted with them. These spots, left bald and unproductive, give an unpleasant aspect to the landscape, but clothed with trees, they impart a picturesque beauty and interest to the scenery. It would not be difficult to cover these places with trees, by planting the sugar-maple, elm, white-ash, oak, chestnut, and some evergreens, as the cedar, hemlock, and pine, to fill up the plantation. All these would become valuable, either as timber or for fuel. It would be necessary to keep stock away from them, till they have attained such size as not to be injured by browsing.

4. Drainage is a subject which is beginning to receive, as it deserves, much attention. We believe it will prove here, as it has been in Europe, the most important means of improving the soil, which has been adopted within the last fifty years. In the northern portion of our country, there is much land which would be rendered vastly more productive by under-drainage. Judgment and experience are necessary to the proper location and construction of drains; but there is hardly a farm that does not contain some land on which they might be laid down to advantage. The whole subject, however, has within a few years, been so much discussed through the medium of this periodical, that no more need be said of it at present.

5. There are many questions in agriculture, the settlement of which would be productive of great benefit. The best situation for instituting and carrying on proper experiments for the solution of these questions, would be an Experimental Farm, in connection with an Agricultural School. The want of such an institution forms a great barrier to making these experiments. Few individuals can afford the money and time which would be required to carry them on, and at the same time, they naturally consider the answers involved in these questions, as of public, rather than private benefit. It is necessary and proper, therefore, that some way should be devised for these experiments to be made, without an injurious sacrifice of individual interests. In the absence of such an institution as has been mentioned, something might be done through the efforts of agricultural societies, and we think a portion of their funds could not be better expended than in the employment of intelligent and trustworthy persons to conduct experiments, under the supervision of a competent board of directors.

We need experiments in feeding stock with various crops, in order to ascertain their relative value, and which would afford for this purpose, the greatest return per acre, or for the expense of production. In relation to manures, also, a course of systematic trials to show their relative effect and value for different crops, and on different soils, would be highly useful; and it would be exceedingly interesting, as well as practically useful, to compare the results of these experiments, as far as practicable, with the results obtained by chemical analysis. To test the different breeds of horses, cattle, sheep, swine and poultry, in regard to their value for the different purposes to which they are applied, is another important object, in reference to which thorough experiments should be made.

On all these subjects light is much needed. What farmer, for instance, knows what crop will afford him the most profit for the purpose of making beef, mutton, pork, or butter and cheese? Who can tell the relative value of Indian corn and the other grains, or of carrots, turneps, or other roots, for either of these purposes? We are equally as much in the dark in reference to the merits of the different breeds of domestic animals. If, for example, the question is asked—What is the actual difference in the Short-horn, Hereford, Devon, Ayrshire, and common cattle, for the dairy, or for beef, who can answer? It may be said that these breeds are adapted to different locations, which is true, but there are circumstances in which they may meet on an equal footing, and though there is, probably, a difference in their capacities, it is desirable to know what this difference would amount to in pounds of meat, butter and cheese, and dollars and cents.

6. The improvement of domestic animals, by encouraging a class of skillful and systematic breeders, deserves attention. The improvement of animals by the art of breeding, is one of the most important branches of husbandry, and yet it is but very little understood in this country. It necessarily follows that we have made slow progress in this department, and th, although we have had frequent importations of stock from abroad, producing, in many instances, a marked improvement in their immediate progeny, it has, with few exceptions, been necessary to continue the importations, in order to keep up the character of our stock. The truth is, our people have given so little attention to the subject, or have examined it under such false impressions, that it is difficult to find a man who is really capable of selecting a proper animal to breed from, and much more difficult is it to find one who is capable of breeding a herd or flock, without degeneracy, for several generations.

The successful breeding of animals for particular purposes, requires a critical judgment and skill, which can only be obtained by a long course of the closest observation, and a habit of comparing animals, united with a natural taste for the subject, and a determination to understand its principles. Hence the number of real *improvers* in this line has been very small. It is an easy matter to improve a stock, so long as the breeder can resort to other stocks of a quality superior to his own, but when deprived of this advantage, a difficulty presents itself which few have the sagacity and intelligence to overcome. This is not, perhaps, the view generally taken of this matter. Many persons seem to think themselves fully qualified to set up as breeders of fine stock; but a few years experience generally brings disappointment, and convinces them that more knowledge and skill are required in the business, than they had supposed.

The usefulness of improved stock, in increasing the profits of the farmer, is too obvious to require argument here. It is, therefore, a question for consideration,—What are the best means of providing suitable animals of the various species and breeds, for popagation? We are clearly of the opinion that this can be best done by encouraging a class of men as breeders, who shall make this branch of business their constant care and study. This is the mode which has, chiefly, produced the improvement of the live stock of Great Britain, and we are confident as to its expediency here. It is no aid to actual improvement for every man who keeps stock to attempt to breed his own male animals. In fact, it is this attempt which has been one of the main causes of failure. The same error formerly prevailed in Britain, but has been generally corrected and a better course adopted.

In illustration of this subject, we will refer to a paper by Mr. Wilson, in the Transactions of the Highland Agricultural Society, on "Rearing Cattle with a view to Early Maturity." It is remarked:

"It may be well to notice that it is in general highly inexpedient for the beef-grower—the farmer who depends on his regular cast of fat cattle—to attempt breeding his own bull. It is only a few individuals in any district, who have the taste and skill requisite for this difficult department of the business, not to mention the large capital which must necessarily be invested in it. Made wise on this point, the farmer of the Border, purchases from some breeder of established reputation, a good yearling bull, which he uses two or three seasons, and then replaces by another in like manner."

It will not be advisable for one breeder to attempt to rear all kinds of stock. In general, it will be found the best course for each to confine himself to one breed only, of each of the different kinds—as horses, cattle, &c. This will guard against the liability of chance mixtures, which may sometimes occur where several breeds are kept on the same farm. Purchasers would prefer taking their breeding animals from herds or flocks where there was the greatest certainty of the blood being what it was represented to be, and where no circumstances existed which would give rise to any doubts on this point.

It is desirable that there should be some point in each district, where the breed or breeds which are there required, could be obtained in their greatest perfection. A dairy farmer might raise his own cows, or if he did not, would be induced to purchase of such breeders as could supply him with him those best adapted to his purpose. But a farmer whose cows were of the best breed for the dairy, would naturally prefer obtaining his working oxen, should he want any, from a stock which had been selected and bred with reference to a capacity for labor. The same rule would apply to stock for fattening. It would be a great point gained, if herds could be established where animals should be bred especially for these different objects. At present, there are but few herds from which the purchaser can obtain animals of the particular character he wants. Hence the necessity for the establishment of breeding stations, where may be obtained the best horses for travel and for draft, the best cattle for beef, work, and the dairy, the best sheep for mutton and for the production of various kinds of wool, the best swine, &c.

It is not to be expected that the benefits of the system here proposed, will be fully realized until it has been in operation for a considerable length of time. As has been observed, the science of breeding has yet to be learned by most of our farmers, and mistakes, more or less, will be unavoidable; but the observing and intelligent, will profit by the errors of themselves and others, and those who perseveringly apply to the business the greatest amount of *practical skill*, will ultimately meet with proportionate success and reward.

Suggestions for Experiments

TO DETERMINE THE MODE OF

Action and Value of Gypsum as a Manure.

Editors of the Cultivator.—Few substances used as manure have produced more widely different results than gypsum, or have given rise to more numerous and discordant attempts to explain their mode of action.

In some districts, farmers have derived little or no benefit from its use; in others it has proved highly beneficial to a certain class of plants—while in others, again, it seems to have been applied to almost all crops with advantage. If it is a difficult matter to arrive at any satisfactory general conclusion regarding the action of gypsum on plants, from a study of facts recorded by practical men, the inquiry becomes much more perplexing when we consider the explanations which have been advanced by chemists and others, with a view to account for the eccentricity of the action of this manure. Some have supposed that gypsum does not, of itself, afford food to plants, but that its fertilising power depends upon the influence which it is said to exercise on other substances; that it merely improves the physical properties of the soil—that it hastens the decay of organic matter—that it fixes ammonia which would otherwise be dissipated in the air. Others contend, that some one of its constituents is the sole active agent,—water, sulphur and lime, having each their advocates. While by others, gypsum is considered to be an essential constituent of some plants, without which they cannot grow in a healthy condition.

The experiments and observations which have hitherto been made, do not seem to have been sufficiently extensive or accurate, to enable any one to point out with certainty, the means by which gypsum contributes to the growth of different plants, nor to which plants, on which soils, or in what manner, it can be applied with the greatest advantage. Our knowledge on these important points being so unsatisfactory, I have thought it may be well to invite the attention of the readers of the Cultivator to the subject, in order that they may see that the inquiry is an interesting one, and likely to afford useful results, and that it stands much in need of, and well deserves a more extended chemical and practical investigation.

The least plausible of the hypothesis mentioned, seem to be those which ascribe the action of gypsum to its supposed power of decomposing organic matter, altering the physical constitution of the soil, or of affording water to plants.

Sir Humphry Davy and others, have proved that the decay of animal substances was not hastened by being mixed with gypsum; if it had possessed this property, and by this alone it was useful to plants, then it should prove most efficient on soils rich in organic matter, and add to the luxuriance of *all* plants.

The quantity usually applied, from two cwts. to four cwts. per acre, is obviously too small to exercise much influence on the physical constitution of a soil; besides its beneficial effects have been observed on soils varying in texture from sand to clay.

Vegetable mould, clay, and other substances in the soil, are known to have a much greater capacity for absorbing moisture from the air, than gypsum. In two cwts. unburned, about 47 lbs only of water, are added to the soil, and supposing roots had the power of abstracting the water of combination, and that this could be continually replaced, then if the supply of moisture afforded by gypsum was the chief cause of its influence, its effects should be most observable on the driest soils, and it should be of great benefit to all crops on most soils in dry seasons; but the facts at present known do not warrant any such conclusion. A crop has been doubled by the use of gypsum, on the western coast of Scotland, where much rain falls, as well as on the sands of Holkham, in Norfolk, where the climate is comparatively dry.

Liebig has stated that the influence of gypsum on the growth of grasses, depends on its fixing in the soil the ammonia of the atmosphere. There can be no question that gypsum has the power of fixing ammonia, or that the sulphate of ammonia produced by the mutual decomposition of gypsum and carbonate of ammonia, is readily soluble in water, and a valuable food for plants. Before, however, it can be admitted that this is the sole, or even the chief cause of its influence, it should be proved to have the most decided effect on soils which contain least of other matters capable of combining with, or condensing ammonia, and that on these soils, a dressing of charcoal, or chloride of calcium, or substances containing ammonia, are equally efficient.

Sir Robert Kane considered that the peculiar action of gypsum consists in its supplying lime for the rapid growth of clover, and other leguminous plants, which its moderate solubility in water enabled it to effect better than any other compound of that earth. It is probable that gypsum may, in some cases, act chiefly by means of its lime, when sulphuric acid and an abundance of other matters required for the growth of plants, excepting lime, are present in the soil. But it seems somewhat paradoxical, that the rapidity of the growth of a plant should be in proportion to the slowness of the supply of one of its chief constituents. If lime, in the state in which it is usually applied, were so easily soluble as to be washed out of the land, or beyond the reach of the roots, before the plants had completed their growth, then a compound affording a more lasting, though limited supply of lime, might in the end prove more useful; but a dressing of ordinary lime is seen not only to carry through one crop, but to exercise an influence on crops for years after; and if the action of gypsum depended solely upon its lime, then it should follow that it would be an useless application to calcareous soils, where this material already abounds. The reverse of this, however, seems to be the case, for some of the most decided instances of the beneficial action of gypsum, have been observed in chalk. In "British Husbandry," it is said "experience has proved gypsum to be beneficial when laid upon limestone soils, or upon land which had been dressed with chalk or lime. It is used extensively for clover, sainfoin, &c., on the chalk formations in Kent, Hampshire and Berkshire. At Tanstall, near Sittingbourne, in Kent, situated, I believe, upon the chalk, a portion of clover was dressed with gypsum, at the rate of four cwts. per acre, and the aggregate produce was three times as great as the other portion of the field, to which no gypsum was applied. It can hardly be conceded, then, that the lime supplied by gypsum is the sole or main cause of its fertilizing power.

Sir Humphry Davy concluded that gypsum is an essential constituent of some plants, as it was always most beneficial to those which afforded it on analysis, and he considered that it might naturally exist in some soils in quantities sufficient for the wants of plants; consequently a special application of gypsum to these soils, would be attended with little or no benefit. Other writers, as Russel, Johnson, &c., coincide in the opinion of Sir Humphry Davy that the benefit to be derived from an application of gypsum, will not only depend upon the kind of plant, but on the abundance or scarcity of gypsum or other sulphates in the soil. That sulphur contributes to the growth of plants, seems to be proved by the fact that sulphuric acid alone has in many instances proved beneficial. Vegetation has been observed to be luxuriant in the neighborhood of sulphureous springs. Natural or artificial waters which have a sulphureous taste, are said to give birth to a peculiarly luxuriant vegetation when they are employed in the irrigation of meadows. (Johnston.) In France sulphuric acid has proved to be a good manure when poured upon land after the removal of the crop. (Liebig.) Sulphur has been applied with advantage in Germany, as a top-dressing for clover and other crops, to which gypsum, in that country, is usually applied. (Cuthbert Johnson.) In experiments made on two fields by a Scotch farmer, sulphuric acid afforded a greater increase of hay than gypsum and an excellent crop of turneps has been raised by means of sulphuric acid in Fifeshire.

Again, the experience of farmers generally favors the conclusion that gypsum acts most energetically on sain foin, clover, lucerne, and turneps, all of which contain a considerable proportion of sulphate of lime. Thus at Holkham an application of 4 bushels per acre on sainfoin layers, is said to have doubled the crop. On a clayey soil in Hampshire, 2¼ cwts. per acre were strewn on two year old sainfoin; the extra produce of hay at the first cutting was one ton per acre; in October the gypsumed part afforded 1¾ ton of hay, yet there was scarcely any on the rest of the land. In the next year the former was twice mown, while in the latter, it is said there was nothing to mow. On clover the influence of gypsum seems in some instances to be very decided. In an experiment made at Highstead, the simple soil produced one ton of clover hay and 20 lbs. of seed per acre; a portion of the same soil to which gypsum, at the rate of five bushels per acre had been applied, yielded a crop equivalent to three tons of hay and 105 lbs. of seed per acre. In British Husbandry, gypsum is said to have increased crops of clover and lucerne, on some soils in Kent, at least three fold. In Ayrshire, part of a crop of turneps was nearly doubled by the use of gypsum. In the same neighborhood, no perceptible effect was produced on turneps by 2 cwts. of gypsum; but the entire crop was excellent—a circumstance which should not be lost sight of when experimenting with special manures. There is a limit to the growth of plants; if a soil is already so rich in vegetable food, as to be able to produce a great crop, a dressing of any manure to a soil in such a state, would be useless.

There are also many observations on record which seem to show that the growth of plants in some instances was checked owing to the want of gypsum in the soil, and that it acts much more powerfully on some plants than on others. Thus, if land is clover-sick; if the young plants spring up and die away as summer advances, this is considered by many to be an indication of the absence of gypsum. A crop of sainfoin which began to decline in the 4th year, became as productive as before by an application of gypsum. (Brit. Hus.) In the 5th year after sowing lucerne, the natural grasses appeared to be gaining ground, when a dressing of gypsum produced such a smothering crop that the grass could no longer make head, till after the third cutting. In another instance, an old grass field became gradually less and less productive in spite of all applications, when a quantity of peat ashes containing about 2 cwts. of gypsum, was afterwards applied, and a similar result followed,—the grass not only grew with greatly increased vigor, but a quantity of white clover made its appearance in the part dressed, in so marked a manner as to attract the notice of the farmer. In both these cases the gypsum had evidently a much more powerful effect on the clover and lucerne than on the grass.

So far, then, as my gleaning of facts and opinions extends, it seems to me that all we can be said to know with any degree of certainty regarding the action of gypsum on plants is, that it does not depend upon the moisture it contains, or is capable of attracting from the atmosphere; nor on its supposed power of decomposing organic matter. We may also infer that it is most beneficial to clover and other leguminous plants, and that it probably acts more powerfully on them in consequence of the great proportion of sulphur they contain. If this be so, it is easy to understand why in some soils it may add to the growth of most plants. If a soil contains all other substances required for the perfect nourishment of plants excepting sulphur, then a dressing of gypsum would have a visible effect on wheat, oats, &c., which require a comparatively small supply; and it should follow that if the quantity naturally existing in a soil were so small as not to suffice for the wants of these plants, that clover, lucerne or sainfoin, which contain much sulphur, could not, previously to the application of gypsum, grow in a healthy condition. A difficulty, however, arises here; if this were the case, if the exhaustion of the sulphur of a soil, were the only reason why gypsum is so beneficial on some soils, why clover and turneps cannot be repeated at short intervals with advantage; why do not these soils produce a similar effect on the potato and cabbage, for the analyses of the ashes of these plants indicate that they require a very considerable quantity of sulphuric acid? yet there are few or no districts where the potato, at least, is not frequently repeated on the same land, but we do not hear of lands being tired of potatoes or potato-sick.

The points on which more precise information seem to be required are the following:

1. Does analyses show a deficiency of sulphate of lime in soils where an application of gypsum is efficient, and an abundance in those soils in which it is inert?

2. Is gypsum on all soils beneficial to plants in proportion to the smallness of the quantity of sulphate of lime they contain?

3. Does gypsum act by different means in different soils and on different plants?

If it should be ultimately proved that the action of gypsum is chiefly due to the sulphuric acid which it contains, then a question will arise whether other sulphates or sulphuric acid, can be profitably substituted for gypsum on some soils or for some plants, as dilute sulphuric acid on chalk and limestone soils, or sulphate of potash for wheat, on land with sufficient lime. It would also be desirable to ascertain what are the chief causes of the difference in the quantity of sulphuric acid in soils—whether it is to be traced to a difference in the composition of different rocks from which soils have been derived, and consequently whether a knowledge of the geology of a district will enable one, without the aid of analysis or experiment, to pronounce whether an application of gypsum will be profitable or otherwise. Or, may the difference depend partly upon the mode of cropping pursued in different districts—to the presence or otherwise of sulphureous springs—or is gypsum conveyed to the land in unequal quantities in different localities in the ordinary dressings of lime?

The following experiments seem likely to throw some light on the main questions. I propose that they should be tried in at least three districts. 1. Where gypsum is known to be of the greatest benefit. 2. Where it acts on certain plants only, as clover. 3. Where it is of little or no use to any plants. A field should be selected in each district, well drained, nearly level, of uniform quality, free from the shade of trees, and which had been manured and cropped throughout alike, for three or four preceding years. A complete analysis must be made of the soil of each field, previously to the commencement of the experiments. The same variety of each plant should be grown in the three districts; it is desirable, indeed, that all should be supplied from the same sample. The culture of each plant must be alike throughout—all kept free from weeds—the land accurately measured and the entire produce of each patch carefully weighed. Notes should also be taken daily, of the state of the weather during the trial of these experiments—and, as will be seen hereafter, it is especially desirable that the time the gypsum remains on the leaves should be carefully observed. I propose that a patch of most of our arable plants should be grown and top-dressed alike—say in the first week of June, with the following substances:

1. Clover.
2. Wheat.
3. Oats.
4. Beans.
5. Peas.
6. Carrots.
7. Potatoes.
8. Mangel Wurzel.
9. Corn.
10. Ruta-baga.
11. Turneps.

Lime.
Gypsum.
Sulphate of Soda.
Carbonate of Soda.
Nothing.
Carbonate of Ammonia.
Sulphate of Ammonia.
Sulphuric Acid.
Nothing.
Gypsum.
Charcoal.

The burned lime used, should be slaked by exposure to the air; when reduced to powder it will be partly in the state of hydrate and partly of carbonate of lime; as carbonic acid sufficient for the wants of plants exists in the soil and air, I propose that carbonates of lime, soda, and ammonia, should be tried with the sulphates, with a view to determine how much of the extra growth of the plants is due to the action of these substances, and how much to the sulphuric acid. By a comparison of the produce of the different patches of any one plant, we may be enabled to conclude whether gypsum acts chiefly by means of its lime, its sulphuric acid, or its power of fixing ammonia.

A comparison of the produce of all the plants, will indicate whether gypsum acts differently on different plants growing under the same circumstances, and whether it is probable that other substances may be used with greater profit than gypsum, in certain localities. The advice of a professional chemist would be required as to the quantities of these substances to be used, and how they should be applied; it will be necessary, I apprehend, to consider what quantity of each would be required to afford an equal quantity of sulphuric acid; what is the degree of solubility, and the tendency to form fresh compounds when in contact with the soil.

A consideration of this subject, suggests another interesting inquiry, viz: how can gypsum be most advantageously applied to plants? One might have supposed that it would have been of little moment whether it was worked into the soil previous to sowing, or strown on the plants early in the spring, or if there was any difference, it would be in favor of the former practice, as by that means the gypsum would be more thoroughly mixed with the soil, and be useful to the plants from the commencement of their growth. The experience of farmers, however, points to a different result, and seems to indicate a peculiarity of action not yet understood, and which, therefore, requires to be cleared up by experiment.

Many have supposes that gypsum exercises the greatest influence when strown upon the plants in spring; some, indeed, consider that it increases the growth of plants in proportion to the length of time it remains on the leaves, and that if rain falls immediately after it is applied, it produces little or no effect. Cuthbert Johnson says—"he has noticed that the weather, at the time of spreading gypsum, has a very material influence on the result of the experiment. Its effects are never soon apparent when sown in dry weather, but if the season is damp, so that the powder adheres to the leaves and stalks, the effect is immediate." This, he says, has been observed in England and the United States. It is also said to be a well known fact with the sanfoin growers of Berkshire, the clover cultivators of Surry and Kent, and to the growers of lucerne in Essex and Middlesex.

In other instances, I find it has proved of great use to wheat, when strown on the plants in spring, and it is said to produce immense crops of peas, if applied when the plants are "looking up." At Wellwood, in Ayrshire, gypsum and salt were strown on a mixed crop of oats, beans, and peas, which, by some means had been much injured. The effect is described as like magic; the plants assumed a deeper color, and grew wonderfully. On the same farm, a similar dressing was applied to a portion of a crop of beans when coming into flower. The beans at the time were very weak, but they ultimately became as good a crop as other portions to which manure had been earlier applied.

Again, it is said in British Husbandry, that gypsum never appears to produce better effects than when it has been laid upon red clover already so far grown as that the leaves nearly cover the soil, "for there seems no doubt that it acts with the greatest force when it adheres to them, and that the longer it remains upon them the better."

These observations derive great support from a comparative experiment made by Professor Korte, who found that gypsum applied to clover, at different periods, produced the following results:

Undressed, 100 lbs.
Top-dressed the 30th of March, 132 lbs.
" " 18th of April, 140 lbs.
" " 27th of April, 156 lbs.

Thus the benefit derived seems to have been in proportion to the extent of the foliage on which the powder could be spread. The plants most advanced in growth when the gypsum was applied, having, with the same materials, accomplished the most work in the least time. It is, doubtless, of importance to ascertain by further comparative experiments, whether gypsum is invariably most efficient when it remains some time on the leaves; and if so, what is the cause of this special influence. Does the gypsum act immediately on the plant, while in contact with the leaves, or does it acquire some property by being exposed to the air, which afterwards renders it more efficient when mixed with the soil? Gypsum, when spread on the floors of stables, is known to purify the air by abstracting ammonia, and it is not improbable that gypsum may, in like manner, attract ammonia from the atmosphere, when exposed thinly on the leaves of plants. It would in that case prove a more efficient manure. If a small quantity only of ammonia exists in a soil, and if there were present, vegetable mould and other matters to prevent its escape, then gypsum would probably act by means of its sulphuric acid and lime only; but if before entering the soil, the gypsum had abstracted a certain quantity of ammonia from the air, the soil would obviously become richer in this essential food of plants. But if this is not the reason why gypsum is more efficient when strown on the leaves of plants, is it probable that leaves have the power of disengaging and absorbing the sulphuric acid and water of the powdered gypsum? As sulphuric acid is an essential constituent of those plants to which gypsum is generally most useful, may not the presence of sulphuric acid in the plant, in a more concentrated form, and greater abundance than it would be if obtained from the soil only, cause a more energetic absorption and assimilation of alkaline bases from the soil, hence a more rapid building up or growth of the plant?

In "Lectures on Agricultural Chemistry," it is said Peschier has observed that gypsum laid on the leaves is gradually converted into carbonate of lime. If this invariably happens, then the change is effected by one of the two causes mentioned; either the sulphuric acid unites with ammonia, or it is absorbed. If it does unite with ammonia, then what becomes of the sulphate of ammonia formed? Is it gradually dissolved by slight rains or heavy dews, and so washed off the leaves. or is it in this state absorbed by them?

Experiments like these, I fear will be considered by many uncalled for and likely to be attended with too much expense. It is high time that a different mode of experimenting should be entered upon than has hitherto prevailed; it must be done, sooner or later, before any rapid or sure advance can be made in farming—and I cannot but think that there is wealth and energy enough in this country to prosecute such experiments now. If $600 can be given by an individual to listen, for a brief hour in most delightful raptures, no doubt, to the warbling of the "Sweedish Nightingale," surely it would be no difficult matter for the farmers of a state to raise at least an equal sum, to conduct an inquiry which would tend to benefit them individually, add to the resources of the state, and, I may say, confer honor on the country. It has been said of the distinguished Von Thaer, a man who seems to have combined within himself a greater amount of practice with science than almost any other writer on agricultural matters, that "the first care of all societies formed for the improvement of Agriculture, should be to prepare the forms of experiment, and to distribute the execution of them among their members." One state is distinguished for the growth of wheat, another for its dairy produce, another for raising cattle, and so on—let each State Agricultural Society consider what question it would be most for its interest to thoroughly investigate; then let the chemist, the vegetable physiologist, and the practical farmer, unite together in order to determine how the experiments should be conducted and what precautions must be observed in order to avoid the influence of disturbing causes, or of receiving evasive or erroneous answers to the questions it is desirable to solve. There is no nation on the face of the earth which should enter into such investigation with greater zeal than the United States. In Europe, and especially in Britain, great improvements have been made in agriculture of late years—and how have these improvements been effected? Chiefly by the skill and enterprise of the tenant farmer. On the strength of a lease, he has been ready to adopt suggestions, showing good ground for concluding that a profitable return would be obtained for money expended. He has laid out his capital freely, and although he may during the time of his occupation win back his capital with a liberal interest, yet many of the improvements he makes, are of a permanent character; consequently when his lease expires he has to pay a considerably higher rent for improvements which he himself has effected, or give way to another who will. Now in the United States, where the majority of farmers are owners of the land they cultivate, the case is very different; they have the prospect of reaping the full benefit of any improvements they may make. JOHN TOWNLEY. *Port Hope, Columbia county, Wisconsin*

Improvement in the Manufacture of Flax.

In a late number, we gave some remarks in regard to the discoveries of CLAUSSEN and others in the preparation and manufacture of flax. There appears to be no doubt, from what we have subsequently learned in regard to the new process, that it is of considerable value, and that it is likely to be extensively adopted. At the meeting of the Council of the Royal Agricultural Society for Feb. 12th, last, M. CLAUSSEN laid before the Council specimens of flax prepared on his plan, according to the following list:

1. Samples of flax in the straw, pulled and rippled.
2. Sample of flax-straw, prepared according to the new process, adapted for linen manufactures.
3. Sample of long fibre scutched from part of No. 2.
4. Samples of flax-fibre, adapted for spinning on cotton machinery.
5. Sample of yarn, spun on cotton machinery, some from all the above flax-fibre, others mixed in various proportions with the American cotton; these mixtures being termed by the inventor flax-cotton.
6. Samples of flax-fibre prepared for mixing with wool.
7. Samples of yarn produced on ordinary woollen machinery, composed of wool and flax in various proportions, termed by the inventor flax-wool.
8. Samples of flannel woven from the above.
9. Samples of fine cloth woven from yarn composed of flax and fine wool in various proportions.
10. Flax-fibre prepared for mixing with silk, and dyed of various colors.
11. Flax-fibre mixed with spun silk, and termed by the inventor flax-silk.
12. A sample of yarn produced from the above.
13. Samples of flax-cotton yarn dyed of various colors.
14. Samples of cloth woven from flax-cotton yarn and wool, dyed.

The following are the advantages detailed by the Chevalier Claussen and his friends, as possessed by the new process over the old methods:

1. That by the Chevalier Claussen's process the preparation of long fibre for scutching is effected in less than one day, and he always produces a fibre uniforn in strength and entirely free from color, much facilitating the after process of bleaching either in yarns or in cloth.
2. That he can also bleach it in the straw at very little additional expense of time or money.
3. That the former tedious and uncertain modes of steeping are superseded by one perfectly certain, with ordinary care.
4. That in consequence of a more complete severance of the fibres from each other, and also from the bark and boon, the process of scutching is effected with half the labor usually employed.

[These advantages referred to that portion of the invention that includes the preparation of flax for spinning upon the ordinary flax machinery, and suited to existing markets.]

5. That by the new process, flax is rendered capable of being spun, either in whole or in part, on any existing spinning machinery.
6. That the fibre, to be mixed with cotton, or spun alone on cotton machinery, is so completely assimilated in its character to that of cotton, that it is capable of receiving the same rich opaque color that characterises all dyed cotton; and, consequently, any cloth made from flax-cotton yarn can be readily printed, dyed. or bleached by the ordinary cotton processes.

7. That flax-fibre can be always produced with profit to the British grower at a less price than cotton can be imported into this country with profit to the foreign producer.

8. That as a consequence of this advantage, the manufactures of this country will be less dependent on the fluctuations of the cotton crop for a supply of the raw material, and a more regular employment will be giving to the manufacturing population, and the present amount of local rates be greatly diminished thereby.

9. That the grower will derive great benefit from a supply of the wide demand thus opened to him.

10. That with respect to the advantages of being able to spin flax in combination with wool on the existing woollen machinery, the first is, that the flax prepared by M. Claussen is capable of being scribbled, spun, woven, and milled, in all respects as if it were entirely wool; having an advantage in this respect over cotton, which has not the slightest milling properties; on the contrary the flax-fibre is capable of being even made into common felt hats with or without admixture of wool. To such an extent has the milling properties of flax been proved, that the sample of cloth exhibited had been woven to 54 inches wide, and milled up to 28 inches wide.

11. That the flax-fibre will not, under any circumstances, when prepared for spinning with wool, cost more than from 6d. to 8d. per pound, while the wool with which it may be mixed will cost from 2s. to 4s. per lb.; consequently reducing the price of cloth produced from this mixture 25 or 30 per cent. below the present prices of cloth made wholly from wool, and being of equal, if not greater durability.

12. That short-wool refuse, which cannot by itself be spun into a thread, may, by being mixed with this thread, be readily spun, and manufactured into serviceable cloths.

13. That there is a probability of a further demand being opened for this fibre in the flannel and woolen trade.

14. That by this process, flax may be also so prepared as to be spun in any certain proportions with silk, upon the existing silk machinery; that when so spun, it is capable of receiving considerable brilliancy of tint. That the fibre may be prepared for thus spinning, at an uniform price of from 6d. to 8d. per pound. That as it may be spun in any proportions with silk, it is evident that the price of the yarns must be reduced according to the relative proportions of the material employed, thus extending the markets, and giving increased employment to the operatives.

15. That by M. Claussen's process of bleaching, any useless flax can be converted into a first rate article for the paper maker, at a less price than the paper maker is now paying for white rags, and suitable for the manufacture of first class papers.

Sir James Graham inquired, whether the farmer, in separating the seed from the straw, would be liable to injure the fibre? To which

M. Claussen replied, that no such injury to the fibre would arise from any of the present modes of separating the seed from the straw, so long as the separation was made longitudinally; that an ordinary thrashing-machine might be so employed as not to injure the fibre; in fact, that the only injury that could arise would ensue from breaking the fibre across, or steeping it on the old system.

Mr. Shelley remarked, that there was no difficulty in farmers growing flax, the only difficulty was to get a market for it. If M. Claussen could make it marketable for them, he would find no want of growers.

M. Claussen replied, that it was both simple and easy to prepare the flax for the spindle, and he would undertake to furnish persons properly instructed who would direct the farmers how to proceed. There was one house at Bradford, that of Messrs. Quitzow, Schlesinger, & Co., flax-spinners, dyers, and merchants, whose only fear was that enough flax wouldnot be grown for their use; and they were, he believed, ready to give £4 per ton for flax of fair quality.

Professor Way observed that the present system of preparing flax only applied to existing markets. M. Claussen's method, as he understood it, had the merit of opening new and extensive markets for this article; and there was one important point in the new plan—that there would in future be no distinction of flax into fine or coarse qualities. The farmer, too, under the new system, would not be obliged to pull his flax, as under the system hitherto in use, before it was ripe, in order to secure a higher price for his fibre; but, on the contrary, it will not be necessary to pull it until the seed and stalk were fully ripe. The farmer would thus obtain a larger proportion of fibre in proportion to the bulk, and a heavier crop of seed. He understood the quality of fibre in the new process not to be so essentially of importance as under the former plan, and that farmers may break the flax to reduce its bulk. The new material would be intermediate between linen and cotton; less valuable than the one, but more valuable than the other.

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Drainage and Irrigation.

EDS. CULTIVATOR—Many valuable articles on the importance of drainage to the agricultural interest of almost every section of the country, have been given in your valuable paper for years past; but it is a subject of such magnitude, lying, as it does, at the foundation of all correct tillage, that the advantages arising from it should be repeated and reiterated, till farmers will hear, believe, understand and act. Although a good deal of that work has been *successfully* done, rendering land which was unfit for the profitable cultivation of wheat, (owing to the heaving of the wet soil by frost) dry and capable of raising crops of the best quality, where formerly a thin crop of mildewed stalks, and shrivelled grain was all that the best tillage could produce, yet a tithe of what is requisite is not done.

Travel where you will in western Pennsylvania, and you cannot find a farm that does not need further improvement by underdrainage, except some favored ones, where *nature* has done the work. And yet, in most places, we might render our arable land dry and productive, at less cost than the farmers of New-York, who use principally draining tiles; while we can very frequently be ridding the surface of the encumbrance of small stones, and with them constructing very efficient and permanent drains, and at the same time be putting the stones forever out of the way. It may seem paradoxical to recommend the drying and wetting of land at the same time.

It is nevertheless true, that irrigation, on soils and situations properly adapted to it, is scarcely less important than drainage. In the December number of the Cultivator, there is an excellent article on the value of that method of improving the soil, and its immediate product. An experience of forty summers enables me fully to add my testimony to that of Mr. Turner, that one acre of judiciously watered meadow land will, from its increased products, fully sustain and keep in a state of progressive improvement, a like quantity of upland. If the soil in both cases, was pretty good to start with, it will do much more. It has been aptly stated that *manure* is the farmer's *gold dust*. Here, then, is a mine entirely too much neglected. I cannot, however, agree with Mr. Turner, that summer watering exhausts the land by pushing it beyond its natural strength. In the long experience alluded to, there has, certainly, been no such results, and we have practiced summer watering for that length of time. On the contrary, the after-growth has been uniformly most luxuriant. The only danger apprehended, is the over-growth of the grass intended for mowing, causing it to fall prematurely, thus injuring the quality of the hay.

It is said that the Chinese laugh at the idea of the "*earth* growing tired like an animal." But although she may not want rest, she does want food while she is producing a crop. And the water of brooks, passing along much travelled highways, and beneath farm buildings, does furnish in large quantities, the ncessary food for grass. I believe the soil is more improved by summer than by winter watering, because, owing to the heavy rains of that season, the streams are enabled to carry and deposit among the grass roots, a greater amount of sediment than the winter freshets; and the roots being active and hungry, receive and appropriate more of the soluble matter suited to their use, than could be done in their torpid winter state. Thus they frequently get a hearty meal without calling on mother earth. Still, I am more in favor of winter, than of long continued summer irrigation. There is less danger in the former than the latter season. The ground may be submerged for a considerable time in winter, without injury, while in warm weather, such treatment, by excluding the atmosphere, would be ruinous. For the successful application of water at that season, the ground must have sufficient declivity to permit the water to pass off freely. Flats, with tenacious subsoils, will always receive injury. Timothy will bear more water, and longer continued on it, than any *good* grass that we cultivate. W. P. *Unity, Jan.* 6, 1851.

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Cutting and Curing Hay.

EDS. CULTIVATOR—I take it for granted, that one of the principal objects of your journal is to benefit the farmer. Through this medium they can exchange views on the various subjects connected with their own immedeate interest, and can avail themselves of the improvements, experiments, and success of others, in the diversified operations of the farm. Theorists may, and often have, suggested many valuable hints and improvements, but practical knowledge is the current coin, and is an indispensible requisite in the successful management of the farm.

Experimental and systematic detail on any one branch of farm management, may benefit many, by enabling them to appropriate the experience of others, and turn it to their own account; and while I would urge upon others the utility of giving their various systems of management, I feel willing, in my own humble way, to contribute my mite to the general fund. In the following remarks, I propose to make a few suggestions in regard to cutting and putting up hay.

I cut and put up about one hundred tons of hay annually. The first point here, and in every other neighborhood where laborers are scarce, is to secure a good selection of hands, and notwithstanding this point may be attained, yet from the commencement to the close, much, very much, depends on the employer himself for success. If he is kind, courteous, sympathetic, and happy himself, making all about him to feel contented and at home, thus inducing a general interest in his efforts, he will go on well; but if he fails in these matters, small as they may appear, he had better abandon his business at once.

The haying season is a severe tax on the physical powers of the laborer. The employer should be careful not to place any obstacles in the way. A good and willing horse should never feel the lash; many a good team has been ruined by bad driving. If there be a sufficiency of hands to carry on the business, three or four should be put to the scythe. If they are honest men, they will make a fair day's work, whether they are paid by the day or acre; that is, if fifty cents be a fair price for mowing one acre, and seventy-five cents be the price of a day's labor, an honest man will feel himself bound to mow one and a half acres. It will, however, generally be found better for both parties to have the grass cut by the acre. Mowing by the day, especially when the weather is very warm, the scythes are apt to become so dull, that many a poor fellow has been nearly exhausted by his incessant whetting; but when mowing by the acre, the scythe almost invariably retains a sharper edge, and he who swings it shows no more sympathy or pity for the falling grass, or the grasshoppers perched upon it, than an energetic farmer, with a deadly weapon, would do in the midst of a patch of Canada thistles.

My clover is carefully scattered immediately after the scythe, and when sufficiently wilted is put up into neat cocks, and permitted to stand one, two, or three days, according to the weather. Previous to storing, it is opened to the sun a short time and then finally disposed of. I consider clover hay cured in the cock, worth almost double that cured in the sun. My timothy hay is cured in the sun, and is never cocked up unless it is not sufficiently dry, and rain is approaching. The principal part of my hay, is fed to sheep in the meadows during winter. Where barns are not erected for the reception of the hay, it is thrown up into stacks or ricks, in the meadow. It is the business of one man to manage the horse-rake; another follows with a fork, commencing at the end of the windrow, and rolls the hay before him as far as he can conveniently do so. He then advances along the windrow, and when far enough to equal his first deposit, he faces about and rolls before him to the former deposit; he then places the fork under the hay and the last roll is flapped on top. In this motion a slight pressure is given to the hay with the hands and breast. It is true these are rough bunches, but they answer for the purpose of hauling, which is all that is intended. A boy follows with the hand rake which completes the operation. Then comes the hauling, and where the distance does not exceed twenty or thirty rods, hauling with the rope is far the most expeditious method. I do not deem it necessary to advert to the manner of pitching and hauling in this way, as its superiority has no doubt rendered its adoption almost universal. Two ropes, two horses, and two boys, can deliver the hay at the rick faster than the most powerful pitcher is able to dispose of it. And here permit me to remark that the person selected as the stacker, should be one of the most energetic and industrious of men. A man whose thoughts are wholly engrossed in contemplating the dollar, seventy-five cents, or whatever may be his day's wages, and moreover feels religiously conscientious that the price of harvest wages is too low; or, if he is one who is only willing to move as circumstances make locomotion imperative—should never be placed on your stack. Better borrow money at one hundred per cent interest, and pay double wages to one who will do justice to the business on hand, than to have the services of the other for nothing.

But let it always be borne in mind, that the duties incumbent on the employer and laborer, are reciprocal. If the employer boards his hands, he should give good, sound provision, at proper times, and plenty of it. He should promise full and fair wages to his laborers, and should perform that promise with the same scrupulous regard, as if it were his oath. In short, he should require nothing of his laborers but that which is clearly right, and as far as it is in his power, should guard against a spirit of jealousy between him and them. It is most truly a sad state of affairs when the employer is found using every stratagem to invite or extort to greater effort, at the same time the laborers are counteracting his grand object in this particular. Such a state of affairs proves either the entire incompetency of the employer for his position, or that he has been so unfortunate as to have employed an Arnold or a Judas, and if the latter, the sooner he informs him that his services are no longer required the better. One man whose feelings are adverse to the interest of the employer, is sometimes capable of spreading the leaven of disaffection, and either causing a general explosion, or marring the pleasure, comfort, happiness and harmony of all concerned. G. *Moore's Salt Works, Jefferson county, O., Feb.* 1851.

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The Potato Disease.

I. *The Gardener's Chronicle, on Potato Disease.*—I noticed in the September number of the Horticulturist, an extract from the Gardener's Chronicle, a periodical edited, I think, by Prof. Lindley. This article, while it notices the effect of the damp, hot weather of the last summer upon the potato crop, seems to charge the disease to a *fungus* formed upon the plant. It is said to exhibit two forms, and is supposed to give origin to two different diseases. My means of nice inspection, and my habits of research, do not qualify me to investigate the disease in this mode. I would not deny the utility of such investigations, nor doubt that, in some cases of vegetable disease, health may be restored by modes of treatment directed to the repulsion of such fungus, as in the case of sulphuring grapes, and the application of salt and strong wood ashes to gooseberries. Yet it seems to me that every one, whose essays in the closet are the fruit of his own daily observations in the field, must be convinced that both the fungus and the insect in diseased potatoes are usually not the cause but the consequence of disease. He will equally be convinced that the disease is usually traceable to the general unpropitiousness of of the climate, or the unpropitiousness of a single season, aided often by the too stimulating course of culture adopted, and the neglect to renew the seed occasionally from the pootato ball. The fungus then becomes the mere eruption of disease, previously existing in the elaborating system of the plant.

Have not inquiries on this subject usually begun at the wrong point, *i. e.*, at the *mode* of morbid development, rather than at the probable *causes*? Had the inquiry been, what are the constitutional requirements of the potato in its normal condition as a mountain tropical plant; what would be the probable influence of cultivating it in a climate presenting the wide extremes which ours does; and what the influence of a course of culture so stimulating as that which is usually adopted, joined with the negligence usually seen in the modes of obtaining seed,—I say had inquiries taken these directions, at the first development of this disease, we should not now be involved in so utter uncertainty about its cause, but might, I think, have been far advanced on the highway of improvement.

My usual experience has been that the first visible indications of disease are a peculiar paleness of the whole plant, that is, a loss of its usually deep verdure, and the exhibition of a light, almost yellowish green, followed quickly by a falling of the flowers whether open or not, a tinging of the extremities of its upper leaves with steel blue, and of its lower leaves with spots like stains of iron rust. Both these marks on the leaves are speedily followed by the death of the leaf. At the same time, and often preceding these appearances on the leaves, the top crest of the plant wilts.

At other times warm rains are intermitted with hot sunshine, which seems to occasion a white mildew over the whole plant. This mildew however does not ordinarily either attend or succeed the preceding symptoms. Indeed, I have never observed it until during the last summer and autumn. At intervals, longer or shorter, after the preceding indications, disease is seen upon the tubers. The thing to be particularly noticed however is, that the preceding indications are always and only preceded by sudden and severe changes of weather, especially by that which is wet, cold and windy, coming in subsequent to that which had been hot and dry; nor is the disease of the tubers ever known to occur except when preceded either by these sudden changes, or by the hot and wet weather.

II. *The Remedy of Dr. Klotch.*—This proposed remedy consists in cutting off the extremities of the plant occasionally during its period of growth. The value, if any, of this proposed remedy lies in the fact that it checks the development of vegetable tissue, and so gives firmness to what remains, while it leaves no very succulent portion in which disease may locate itself. This remedy, as far as it is such, is obviously founded on physiological principles. But I utterly question its power in severe cases. If the theory of disease hinted at in No. 1, above, be at all correct, then a field where top shoots should be shortened just *before* a severe change of weather would not be saved, since the general succulence of the whole plant would expose it to the severity of the weather. Less benefit still would be experienced where the change of weather *had already begun*. Allowing however the utmost benefit to this method, it would, in the case of a crop in a rich soil, need frequent repetition, since it is found that the disease may arise at almost any season during the growth of the plant, should sudden changes frequently occur. This supposed remedy then proves to be uncertain in its application and also expensive.

III. *A late English Remedy—that of covering the stems with earth.*—That heat, light and air are essential to the growth of vegetation and especially to the perfect maturity of seeds and fruits is a position too well sustained by the general experience of mankind to require a formal proof. Hence the reason of pruning fruit trees, and of sowing and planting seeds at suitable distances, stirring the soil frequently, &c. To suppose then that, if you cover up the most of the foliage at or before the time of the greatest development of the plant, or even at a considerable time afterwards, the fruit, i. e., in this case, the tubers, will mature just as well, or even nearly so, as otherwise, is against all theory, analogy and experience. Grant, (what I believe to be true) that the disease is occasioned by sudden changes of weather acting on the elaborating system in the foliage; and that, (which I also believe,) our climate is too hot and bright for the normal requirements of the potato, who would look for a remedy in a mode of treatment that entirely deprives it of light and, to a considerable degree, of air and heat.

Suppose also that the stems of the plant, when at their full size, contain the most of the material needful for the growth of the tubers, yet it must be in an immature state. In covering up the most of the foliage with earth at this period, you do, of course, destroy the leaves, those great elaborators of all vegetable material, and with them the elaboration itself. Does any one doubt this, let him strip a plum or an apple tree, a tomato or cucumber vine, while the fruit is immature, and it will never ripen. And yet all these fruit have a local power of elaboration accessory to that of the leaves which the tubers of the potato have not; so that comparatively they are less dependant on the foliage of their respective plants than is the potato on its foliage. That, in the old age of the potato, at a season when common experience shows that its morbid liabilities are mainly past, that then, when the leaves begin to wither from natural ripeness, the stems contain a considerable amount of mature matter is evident from the fact that the crop of tubers is found to increase in weight until the stems are quite dead. But it may be asked, does not some degree of elaboration go on in the stem when covered, especially in connection with those leaves that remain uncovered at the extremity of the plant; and may not this state of things be preferable to a larger amount of foliage diseased by its exposure to atmospheric changes? It may be so. Experience must decide this question. But who would expect a full crop, or call this a perfect remedy? Further, when you consider the labor of this process and the greater breadth of ground, and the correspondent diminution of crop, needful to carry out this plan without disturbing the tubers, it certainly does not deserve the dignified appellation of a *remedy*.

One general remark may close this discussion. When once the disease has begun widely to pervade the foliage, all hope of saving the crop, except by the excision of the vines, is hopeless, except in those cases where, acting with great rapidity, it at once parallizes the circulation, like a sudden frost, and so prevents the transmission of morbid matter to the tuber. In most cases of wide-spread disease all remedies except excision are as powerless as the heat of a bonfire in arresting the approach of the winter. C. E. G. *Utica, Jan.* 4, 1851.

Peat and Peat Charcoal.

Analytical Laboratory, Yale College,
New-Haven, Conn., May, 1851.

Messrs. Editors—I have been led to take up the above named subject at the present time, by the interest which attaches to "A report on the economical uses of Peat," by Dr. Thomas Anderson. Dr. Anderson, as many of your readers are aware, is chemist to the Highland and Agricultural Society of Scotland. This gentleman virtually fills the position once occupied by Prof. Johnston, as chemist to the Agricultural Chemistry Association of Scotland, that body having now in a manner merged into the Highland Society, of which it was indeed originally in some measure an offshoot.

Dr. Anderson seems a worthy successor to the distinguished gentleman who preceded him in the same field, and in the time that he has been chemist to the society, has produced some very able, valuable, and interesting papers. To one of these I have referred above.

The results given in this report, are deduced from investigations that were suggested by the extravagant expectations entertained, and promises put forth, by various societies and individuals, on the practicability of converting peat into a great variety of useful and costly substances with comparatively little outlay. Sulphate of ammonia, acetate of lime, naptha, paraffine, &c., are all produced by the distillation of peat, and as it is asserted, at a profit of about 100 per cent. Dr. Anderson's paper throws, as I think, a very great degree of doubt upon the estimate of profits, and renders it probable that this new process, like many others which have preceded it, having the same object in view, will be found too expensive when tried on a large scale.

This part of the "Report" is of least interest to us in the United States, as we have comparatively little real peat. Our extremes of temperature seem not to be favorable to its growth, and so far as my experience extends, it is only to be found on certain parts of the New-England sea-board, where the climate somewhat resembles that of those parts of Europe where peat formations abound.

Our natural boggy or swampy accumulations, are for the most part included under the term *muck*, and are a species of vegetable deposit in low grounds, rather than a regular vegetable growth, such as may be seen in Scotland, uplifting the surface of a peat moss even above that of the surrounding and drier land. This muck has not by any means the indestructible nature of true peat; on exposure to the air, in place of becoming a hard insoluble mass as is the case with peat, it soon crumbles away and decomposes into a rich vegetable mould. This process is especially rapid if it is mixed in a compost, or laid in the bottom of a barn-yard. Here then in the outset, our farmers escape one great difficulty with which those of Scotland are obliged to contend. We have to do with a mass of rich vegetable material easily convertible into manure; they with the same material as to its ultimate composition, but in a present form which if once dry, bids almost entire defiance to the ordinary action of the elements. Their most advantageous method of forming a soil upon the surface of a peat bog, is in many cases to burn by successive parings to a depth of one, two, or three feet, and to mix the ashes thus formed with clay or earth brought up from under the remaining peat. Such processes, and in fact all processes for forming what must be for the first few years an almost wholly artificial soil, are always expensive and tedious. It is therefore fortunate for us, that our farmers in reclaiming their swamps are not, in a great majority of instances at least, obliged to have recourse to them. As soon as our swamps are drained, natural influences commence their work upon the surface, and alter it in such a manner as soon to form a soil, capable of bearing valuable crops.

But there are other points touched upon in this report, that have their importance for the American farmer. The first of these to which I would at present call attention, is relative to the absorbent properties of *peat-charcoal*, or as perhaps many farmers would term it, *charcoal-peat*. The preparation of this charcoal, and its uses in absorbing ammonia, have been always put forward as a prominent advantage connected with the various projects for reclaiming bogs by partial burning. It has been generally supposed that any form of charred vegetable matter possessed, in a considerable degree at least, the same powerful absorbent properties with regard to ammonia, which exist in wood charcoal. Dr. Anderson's experiments indicate that we have been deceived upon this point, and have greatly exaggerated the absorbent powers of many substances.

The peat charcoal acts, it seems, as a *deodoriser*, without acting powerfully as an *absorbent*. The general belief has been, that it would act in both ways with almost equal effect; hence its extensive use in mixing with night-soil, and all putrescent and offensive manures. Poudrettes have been very largely prepared in Europe, by mixing with this material. The fact of its successfully removing all perceptible smell from most offensive mixtures, has been considered a sufficient proof that all of the ammonia, and other valuable escaping products, had been arrested and permanently preserved.

So fixed has been this impression in the public mind, that patents have been taken out for the manufacture of peat-charcoal, and for its employment as a manure in the form of various mixtures. We read accounts of public meetings, where samples of night-soil deprived of smell by means of this charcoal, were exhibited as undoubted evidence of its immense value in directly increasing the ability of the farmer to fertilize his land, by means of cheap and at the same time concentrated manures.

It is scarcely necessary to say that this charcoal, or any charcoal, cannot in itself hold a high rank as a manure. They all chiefly consist of carbon, hydrogen, and oxgyen, the first being by far the larger constitutent, and their value is less as an actual manure than an equal bulk of any common vegetable substance, on account of their comparatively undecomposible nature. The chief importance then of peat-charcoal, as Dr. Anderson observes, is clearly owing to the absorbent powers which it is supposed to possess.

Upon this point he gives us the results of some very careful examinations.

He first tried filtering a liquid containing a small known proportion of ammonia, through a deep layer of peat charcoal; the liquid passed out at the bottom with the smell of ammonia perfectly distinct. On passing putrid urine, having a distinct ammoniacal reaction, through a similar layer, the liquid came out colorless, and deprived of smell, but still distinctly ammoniacal. This proved that the absorbent powers of the peat charcoal were not very rapid in their action. He went still farther however, and allowed various ammoniacal solutions containing known quantities of ammonia, to remain in contact with peat charcoal for some days, under favorable circumstances for absorption. The largest proportion which he found to have been absorbed, amounted to but about the tenth of one per cent. A like experiment with putrid urine, afforded even a still more unfavorable result. Seven or eight trials of this kind, served in the words of Dr. Anderson, to show—"that the absorbtive power of peat charcoal for ammonia, is so small as to be practically of no importance, and its use for this purpose cannot be recommended to the farmer." These are somewhat unexpected results, and probably bear on other varieties of charcoal; indeed I am led to doubt whether wood-charcoal, for practical purposes on a large scale, would exert more than a small part of that extraordinary absorbing power for ammonia, that is shown in the laboratory in a small way by carefully prepared samples. As a deodoriser, it is powerful, but from the character of these trials, I should desire farther experiments before advising the farmer to rely upon it entirely as an absorbent.

Examinations of poudrettes, made by mixing peat charcoal with night-soil, showed that little ammonia had been retained, and that their value as manures was not very great. In fact it would have been at least equally advantageous, to have mixed the night-soil with any sample of porous earth, inasmuch as Prof. Way has shown that all soils possess the power of absorbing quite appreciable quantities of ammonia. The conclusion arrived at is, "that a ton of the night-soil would be much more valuable, and also greatly cheaper, than a ton of the mixture."

Another important branch of this subject was investigated by Dr. Anderson, and it is one which has a still more practical bearing on the operations of the American farmer. He was led to try some experiments upon the power of the peat itself in absorbing ammonia. It is, as all know, a highly porous substance, and might be expected to retain something from liquids brought in contact with it, but the actual result surpassed all expectation.

A weighed portion of peat, dried at 212°, was employed; to this a small quantity of a solution containing a known per centage of ammonia was added. The fluid was of course instantly absorbed, and at the same time the smell of ammonia disappeared, as well as all traces of alkaline reaction. "The ammoniacal solution was gradually added in small successive quantities as long as its odor and reaction disappeared." At a certain point it was found that the odor and reaction reappeared. It thus became evident that ammonia was rapidly and rather largely absorbed. The peat was still quite dry to the touch, but from the known quantity of ammonia added, was found to have absorbed no less than two per cent of its weight. The same sample was afterward spread out in a layer, and exposed to the air for 15 days, when the quantity of ammonia was found to be still 1¼ per cent. "It appears then from this experiment, that peat is capable of absorbing fully two per cent of ammonia without acquiring an alkaline reaction, and when exposed to the air until it again becomes tolerably dry, of *retaining* no less than about 1¼ per cent."

The results of subsequent experiments which are detailed in the report, correspond very well with the above statements, and seem to establish the fact that peat is extremely valuable as an absorbent of ammonia, the above quantity being larger than that contained in ordinary yard manure.

Some samples simply dried in the air, also afforded a most encouraging degree of success. I see no reason why the same action is not to be expected from our more easily decomposible muck, nor why some of its well known beneficial effects in composts may not thus be clearly explained. The material from the Scottish swamps becomes hard when dried, and requires considerable power to reduce it to a fine state of division; ours crumbles naturally away, and might easily be dried if spread out in the hot sunny weather of summer. It would then be in the most advantageous state for mixing with manure heaps, spreading over the bottom of barn-yards, or soaking up the liquid of tanks. For such purposes as the latter, it might even be found advisable to dry small quantities by means of artificial heat.

I consider the new view of this subject thus offered by Dr. Anderson, as of very high importance. It indicates to those farmers who have already discovered the value of the muck-heap, the best way of reaping advantage from it; it points out the inestimable importance to the future agriculture of this country, of those vast vegetable deposits which have been for ages accumulating, as it were for the express purpose of repairing the ravages which short-sighted ignorance has made, in the almost utter exhaustion of many of our fairest and originally most fertile districts.

I would recommend experiments in mixing severally dried and undried peat, common earth and charcoal, with like quantities of barn-yard manure. Yours truly, JOHN P. NORTON.

Profits of Farming.

This was the subject of discussion at one of the farmer's meetings at the State House in Boston last winter. The speakers expressed different opinions in regard to the profits of farming. This diversity of opinion is not strange, when it is considered that the profit and loss of farming varies according to many circumstances. Thus a good farmer, favored with a good farm, and enjoying advantages in regard to markets, would have no hesitation in declaring that "money could be made by farming," while another, differently situated, states that "it is a general opinion in his section that farming was not profitable." As some of the estimates and statements may interest our readers, we abstract the following from the *Plowman's* report.

Mr. BARRETT of Belchertown, said he had seen men commence by running in debt for land and pay for it, and increase the dimensions of their farms. The farmer should study the nature of his soil and what is adapted to it. Some kinds of produce would be profitable while other kinds might not. In various breeds of stock, there was nearly one-half difference as to profit. Some breeds would give nearly as much again profit as others on the same keeping. He referred to a man who purchased a farm worth $2500, who had paid for it, and now had money at interest. Where they had one farmer fail, fifty manufacturers were blown sky high!

Mr. SHELDON, of Wilmington, thought farming under good management, as profitable as any other business. Mechanics and traders could not subsist unless there was profit in farming. As an example of the difference in management, he said he had seen two men with two small yokes of oxen plowing in one field. in the adjoining lot he had seen a boy with one yoke of large cattle doing a better business. He cited the case of a woman whose husband died $800 in debt. Her oldest boy was now 21. She had paid off the debt, brought up her family at home—the buildings were improved, and the whole would sell for 50 per cent. more than when she took charge of the farm.

"A change has been going on."

In years past there has been a constant tide of emigration running from country to town. Young men and maidens, to gratify their pride, ambition and acquisitiveness have left their father's firesides and taken up their abode with strangers. Old farmers in a great many instances, have been unable to keep one of their sons at home, to take care of them in their declining years, and to take the homestead when they are "gathered to their fathers." In some rural districts there is now scarcely a young person between the ages of sixteen and twenty-five. It is not strange that the professions are full, and that all industrial occupations are crowded with operatives. The supply of manufactured commodities is exceeding the demand, and prices are decreasing; consequently wages are not so high, and there is not that inducement there was once, to engage in other than rural pursuits.

"A change came o'er the spirit of their dream." Man, like the lower animals, loves the pure air and free sunshine, to roam over the green fields, and to find "pleasure in the pathless woods." Confined to toil year after year, between walls of brick and mortar, hearing only the everlasting hum of machinery, or engaging in the unvarying routine of business. is a life hard to be endured. Hence the eagerness with which the tired denizens of the city, rush out into the country when an opportunity presents itself. The poor artisan who is obliged to labor every day for his daily bread, must stay in the smoke-stained atmosphere, whereas if he could "*vote* himself a farm," he would soon leave the crowded city. Many that have gained a competency are seeking a home in the country. And young men that a few years since left their father's farm, thinking it would be a fine thing to work in a manufactory or machine shop, are becoming weary of such a life. Although receiving good pay, it is irksome after awhile, to be controlled by the factory bell, in their "goings out and comings in." Very unpleasant to think that the burden of life is to

"Eat, work, sleep, and then
Eat, work, and sleep again."

Hence, discontent arises, and magnifying the evils of their situation, they pine for the free and independent life that the farmer enjoys. And so, many that left the farm and became artisans, return again to the vocation of their early days.

Radical changes may sometimes be wise, but they are often disastrous. A person by changing his occupation does not change his character, nor acquire thereby a new accession of energy or wisdom. It requires time for one to adapt himself to a new situation or a new pursuit; there are disappointments to meet, and evils to encounter that imagination had not suggested, and many have verified in their own experience the sentiment of Watts,

"It is a poor relief we gain,
To change the place and keep the pain."

The "sign of the times," if we read them aright, do not indicate so great a degree of prosperity as has been enjoyed for a few years past. Should there be a still greater depression in the manufacturing interest, other interests will also suffer, and there will be greater inducements to engage in agricultural pursuits, as those always give promise of the means of living. Therefore it would be unwise for farmers, at present to think of "selling out" and changing their vocation. W. L. Eaton.

Good and Bad Farming.

Eds. Cultivator—Having long been a reader of your journal, and having grown up under its teachings, I take this opportunity to let you know what I am about. The farm I now occupy, contains over 500 acres, 200 of which are under improvement, 100 are marsh, and the rest timber and pasture land. The soil is composed of a rich black loam, mixed with fine gravel. This being my second years' experience as a farmer, you will not expect great things. In giving you a description, I shall draw a picture of farming as it is done in our neighborhood, with few exceptions. In the first place as manure demands our first attention, we manage it in the following manner. Our straw, (of which we have great quantities,) is stacked on the ground, and pulled out and trod under foot by cattle. These huge piles are left to ferment one, two, or three years, till they become less bulky, and then you hear farmers say—"manure does no good"—never thinking that in the exposure it has been subjected to, it has lost much of its fertilising property.

Next comes plowing for spring crops, which is done by beginning somewhere in a lot and going somewhere else on the other side, without any regard to width of land or straightness of ridge. The plows are without wheels, and are drawn by two light horses or oxen, at a depth of from three to five inches. There are some exceptions to this kind of management among those who take the Cultivator; but I am speaking of those who have skinned their farms till the bones begin to stick out, in the shape of mortgages. Now I farmed it one year in this way, and cleared about $200. This set me to thinking, the result of which was (after long consultation with the Cultivator, old and new volumes,) the sale of my light teams and the purchase of heavy ones. I rigged my plows with wheels, obtained labor-saving machines, cleaned out the manure from my yards twice a year, plowed it in once, and then plowed some two inches deeper, thus mixing the manure and subsoil together. The result of this different management was $400 profit. I now keep three books; one a memorandum-book, in which is noted everything that needs doing; one a day-book, in which I note what has been done each day, and one for accounts. There are a few things that are very important to farmers here: 1st, to save manure; 2nd, stock their farms to clover; 3d, deep and thorough plowing. L. D. Watkins. *Elba, Mich.*

Farmers should Read.

Messrs. Editors—As this is the season for study and mental improvement with farmers, it is to be hoped that it will be improved to the best advantage.

Could the body of farmers in the several states, improve their leisure time in the study of the farm, and in gaining general knowledge, a greater impulse would be given to improved agriculture than all the "Fairs" have done in the last five years. It is true our yearly fairs please the eye and improve the mind, and help to keep up a friendly feeling among farmers. Yet it is the study of the farm by the farmer, that leads way the to permanent improvements. Examples from intelligent farmers go a great way in introducing improved methods. Yet there are but few farmers who make improvements, unless they are in all respects *reading* and *thinking* men.

Of all classes of laboring men, farmers have the most leisure in course of the year, and they ought to be the best educated. It has been the practice, in what are called the "Professions," for men to spend years in close mental application to fit themselves for their calling. And what business is followed which requires a more varied study than that of agriculture? That it is generally carried on by a scanty supply of "head-work," I am ready to admit. But this does not prove that it is, or should be necessarily so. It only proves that the farmer is willing to plod on from year to year at a haphazard rate, with a less amount of knowledge of his business than would satisfy any other class of men. I am often surprised, in asking farmers to take and read an agricultural paper, to hear them reply that they would take it, but they have not the time to read it. In nine cases out of ten, the plain English of this is they have not the will or disposition to read. The worst of all excuses that the farmer can plead, is that he has not the *time* to read. Every individual has time to spend well or ill, as his tastes dictate. That farmer who does nothing more than dig and delve, from the beginning to the end of the year, lives to a very small purpose indeed.

There is a satisfaction found in reading and improving the mind, which can only be appreciated when it is experienced. The farmer who only reads his weekly newspaper, during the long winter evenings, knows very little of the economy of time in reading. Let him reduce his reading to a system and he will be astonished at the amount of agricultural and other reading that he can master in one winter. But if any reading must have the preference, let it be that which relates to the farm. L. Durand. *Derby, Ct., Jan.* 28, 1851.

Destruction of Quack Grass.

There are few foes of cheap and easy cultivation so unconquerable, by common means, as quack grass. Its horny headed runner pushes its way readily through all sorts of soils, not stopping for a potato, through whose tubers I have twice known it to penetrate. A large amount of labor is often spent upon quack grass to little effect. The secret of its cheap and ready destruction lies in hoeing it frequently and thoroughly in dry weather, in connection with a crop that admits of being worked among all summer. Indian corn and cabbage are those crops in the cultivation of which I have frequently eradicated quack in a single season. On small spots, and amid the culture of delicate vegetables, it is undoubtedly best to extract it from the soil with the spade and rake, removing and burning the whole. But faithful hoeing and shaking it up, in dry weather, in the cultivation of the abovementioned crops, will certainly destroy it in a much cheaper manner. C. E. G. *Utica, Jan.* 23, 1851.

DOMESTIC ECONOMY.

Dairy Matters.

Scalded or "Clouted" Cream.—A practice has been long pursued in Devonshire, England, and has been to some extent introduced in this country, of scalding the milk for the purpose of making butter. It is a common opinion that the scalding process increases the quantity of cream and butter from a given quantity of milk. But in the report of a late survey of the county of Somerset, published in the Transactions of the Royal Ag. Society for 1850, there is an account of an experiment, by which it appears that there is no increase in the weight of butter by scalding the milk. Two lots of milk, of twelve quarts each, were taken—the one scalded, and the other set in the ordinary mode—the butter from each was carefully weighed and then subjected to analysis by Prof. Way. The analysis showed that the proportion of pure butter in that made from the scalded milk was not greater than from the other. It appears, however, that there are some practical advantages attached to the scalding process, which are "that the butter is more quickly made by stirring with the hand or with a stick; and that it keeps much longer." The analysis throws little or no light on the question why the scalding process should add to the keeping quality of the butter. The advantage in churning is attributed to the bursting of the bubbles of casein which contain the oily matter, by the heat, thus facilitating the process of separation; and it is probable that this perfect separation of the oil from the casein, is the cause of the butter from the scalded milk keeping better.

Scalding Milk.—A correspondent of the Dollar Newspaper, says that in Cornwall, England, milk, after having been cooled some hours, is scalded over a *very slow* fire, and then again cooled. "The cream is taken off from 24 to 30 hours from the time of milking, as needed. Cream from milk thus managed, is delicious—too good to talk about—and so rich and thick that I have seen a common dinner-plate laid on the pan on the cream, without breaking its surface."

Profitable Cow.—John Nichols, of Salem, offered at the last exhibition of the Essex county (Mass.) Ag. Society, a cow seven years old, which he stated had given in the preceding sixteen months, 6,100 quarts of milk. Of this quantity, he states that he sold and used 1,274 quarts at six cents per quart, $76.44, and 4,826 quarts at five cents per quart, $241.30—making a total of $317.74. The expense of feeding the cow in the same time, was stated at $104,74,—leaving a profit of $213. Her average yield of milk for the sixteen months, was twelve and a-half quarts per day. She calved twice during that time: viz: April 29th, 1849, and March 7th. 1850.

Another Vermont Dairy.—The *Green Mountain Freeman* states that E. Marsh has made, the past season, from four cows. 934 lbs. butter, and 100 lbs. cheese, besides the milk and cream used in a family of two persons; from the skimmed milk, and about eight bushels of corn, 648 lbs. of pork.

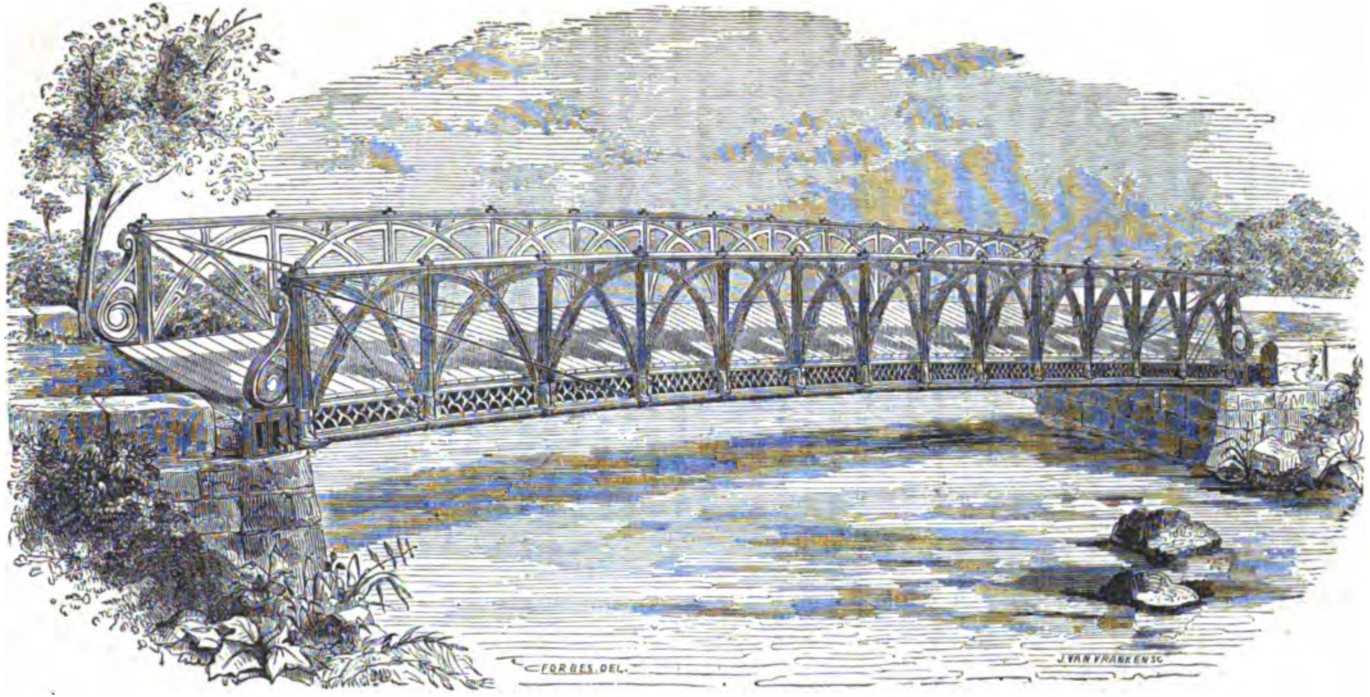
Profits of Six Cows—Value of Skimmed-Milk.—Joel Edmunds, of Framingham, Mass., gives in the *Plowman*, an account of the products obtained from six cows in 1847. In the first place he fatted and sold from them seven calves. He sold during the season, 968 lbs. butter, and 117 gallons of milk. In April he purchased three shotes which he fed *entirely* on the skimmed milk of the six cows—not allowing them even "the crumbs that fell from their owner's table." The hogs were sold for $44,19 more than he paid for them. He sums up the proceeds as follows:

Butter sold 963 lbs. at 21⅔ cts. per lb.,	$208 65
Seven calves,	44 85
Milk, 117 gallons,	12 74
Increase on pork,	44 19
Butter used in family, probably 75 lbs.,	16 25
	$326 68
Deduct for one calf purchased,	1 25
	$325 43

Lard Candles.—A correspondent of the Michigan Farmer, gives the following method of making candles of hog's lard, which he says prove of best quality. Put all the lard, say enough for 5 lbs. of candles, in the smelter; after it attains a heat of about 200 Fahr. throw in 3 or 4 ounces of lime, and about an ounce of aquafortis, and then mould them. The lime purifies the grease and the aquafortis hardens it.

To Keep Preserves, apply the white of an egg with a suitable brush to a single thickness of white tissue paper, with which cover over the jars, overlapping the edges an inch or two. No tying is required. The whole will become, when dry, as tight as a drum.

New-Water Cement.—It is said a very strong and valuable water cement has been made by Gen. Pasley of the British army, consisting merely of four parts by weight of chalk and five of blue clay. According to the experiments made to prove its strength, it must possess extraordinary tenacity.

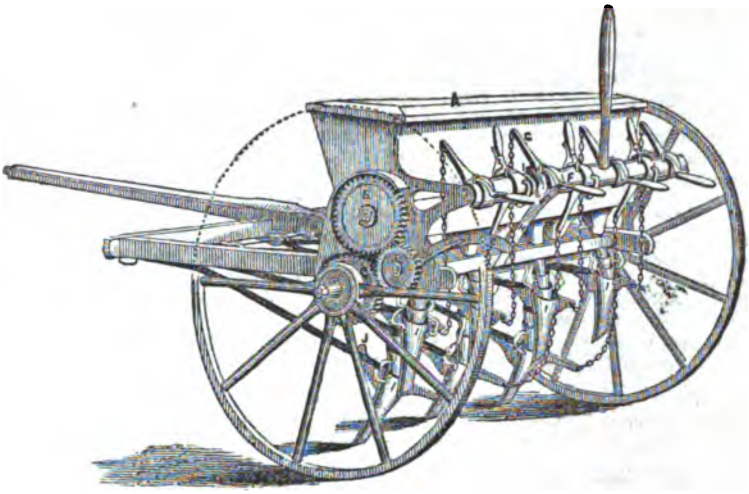


Severson's Iron Bridge.

The above is a view of an Iron Bridge, invented by B. SEVERSON, of Schenectady, N. Y. It is formed of cast and wrought iron, and in addition to the requisite strength and durability necessary in such structures, has much beauty and neatness of style. A bridge on this plan has been constructed at Schenectady, and has been subjected to a severe test as to strength. According to a certificate, signed by the Mayor of Schenectady and others, this bridge, which is 72 feet span, and weighs 14¼ tons, was first tried by putting on it 35 tons of iron, which was left there for two days. The weight was then increased to 42 tons, and left for thirty hours, when a careful examination was made of the effect produced on the bridge, and the result, as the gentlemen say, was, "that, although we think the test amply sufficient for a road bridge, yet we believe it falls far short of a full test of its ultimate strength." They add—"We consider it a strong, cheap and durable bridge, and that it may be made to span great lengths with sufficient strength for all bridging purposes, and the design is more beautiful than any one that has ever come under our notice." Messrs. CLUTE, of Schenectady, will furnish any particulars, or execute orders for this bridge.

DURABLE ROOFS.—Roofs of buildings, according to the Genesee Farmer, are now successfully made, by first covering with sheets of tarred paper, which is then covered with hot pitch, and with a coating of fine gravel while the pitch is hot. The cost is about the same as with shingles. Old and leaky roofs are cured by two successive coats of hot coal tar, each followed with a covering of sand, care being taken to introduce the tar into all the crevices.

PRESENTS TO ROYALTY.—We observe among the articles sent from Cincinnati to the World's Fair, a notice of a jar of preserved peaches for Queen Victoria, and a fine shirt for Prince Albert. Would it not look a little better, and less like worshipping rank and royalty, for plain republicans to confer their presents on eminent men of science, literature, or philanthropy, who may happen to have short purses, and there are many such?



Improved Seed Drill.

The accompanying cut is a representation of a seed drill, on which important improvements are said to have been made by Lyman Bickford and Henry Huffman, of Macedon, Wayne county, N. Y. The cut gives a perspective view of the machine, with its external gearing, &c. It is said to operate with great accuracy, being readily governed as to the amount of seed sown; and is also recommended on account of its simplicity and completeness of construction. Particulars can be learned by addressing the persons above named.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Pyramidal Pear Trees.

The following description, given in the Horticulturist, by its Editor, A. J. Downing, of the most perfect specimen, perhaps, of pyramidal training in existence, cannot fail to be interesting to all those who have a keen eye for seeing every thing done in the most perfect manner, and who are not satisfied with half-way performances of any kind. At the same time, the mode of pruning is so distinctly described as to possess much practical value.

The most beautiful sight, in the way of hardy fruit tree culture, that greeted our eyes last season, in Europe, was that of the Pyramidal Pear Trees in the *Jardin des Plantes.*

One side of this great national garden, which, with its parterres, schools and museums, is a vast collection of all that is interesting in Natural History, is a piece of ground of perhaps an acre, somewhat away from the principal walks. It is separated from the rest of the garden, (to which the public has the freest access,) by an iron railing and a gate, which is kept locked. This is the "school of pears"—that is to say, the garden in which Monsieur Cappe, the head of the fruit department, has his house, and more especially his beautiful pear trees—to which he has given up almost the whole of the area allotted to him.

It was September when we were in this garden. We were weary with a day of sight-seeing, and a long ramble through the other different departments of the garden, and though very desirous of seeing M. Cappe's trees, which have become rather famous as fine specimens of the art of pruning, and had come provided with a note to him which would open the iron gate where the trees of knowledge stood—we had almost determined before we reached it, that we would be content with a passing glance from the outside, at what we supposed would present a familiar appearance to our eyes.

But a passing glance through the iron railing soon made us feel that M. Cappe was not a man to be neglected. And patiently we waited till one of the garcons had found him and delivered our note, in order that we might enter the now unclosed gate, and make the acquaintance of the master of pear trees.

We do not wish to depreciate the magnificent pictures in the Louvre, but we must still be allowed to say, that *in their way*, M. Cappe's pear trees are as well worth seeing as any of the great master-pieces of art there. Nobody (with a soul) would think of comparing a Poussin with a pear tree, yet what one of Poussin's grand sylvan landscapes, (in which you can almost feel the tempest that sways the tops,) is to a landscape on a signboard, M. Cappe's pyramidal pear trees are to the pear trees of common gardens, both in England and America.

Our readers must imagine a level plot of ground, marked off into beds or borders, about ten feet wide, with a narrow alley between. In a straight line in the middle of these beds stand the pear trees—about ten feet distant from each other. And such pear trees! so symmetrically shaped, forming perfect pyramids of foliage in the finest tapering lines from top to bottom; so healthy and luxuriant, with not a leaf nor branch wanting, and with the utmost possible vigor and beauty of growth, as if not "nice art" had educated them into this shape, but rather they had grown so because it was their nature, and they could not help it; and so laden all over with the finest and fairest fruit—golden, orange, dark bronze red, or tinted with the ruddiest tints of autumn; in short, so altogether the complete and perfect thing as garden pear trees, that we strongly suspect that good Monsieur Cappe has a better understanding with mistress Pomona, than any of us, her Anglo devotees.

We had a very interesting chat with M. Cappe about the management of his trees, which we shall give the substance of for the benefit of our readers. We may say, in the first place,

Cappe's Pyramidal Pear Tree.

that the climate of Paris is so much like our own, that any lesson in open air culture learned there, is worth twice as much as if learned in England. In fact, the pear tree grows but indifferently as an open standard in many parts of England—while M. Cappe's trees, almost all of them, had made shoots at the ends of the branches, on all sides, about two feet in length. They had been planted from 10 to 18 years, and were from a dozen to eighteen feet high. None of them were on quince stocks—though Mr. C. admitted the value of the stocks for particular varieties. Neither does he practice root-pruning, but rather smiled at our account of the importance attached to it in England by some of the best cultivators—saying "it is all very well for a cold, moist country—but neither you nor us need it." His pear trees are all worked on pear stocks. They are planted in a good mellow loam—simply trenched two and a half feet deep, and about eight feet wide, and when they are loosened in the spring, the whole top of the border is formed into a hollow, shaped like a shallow pan, two or three inches deep. Over the surface of this is spread a mulching, an inch deep, of decomposed barnyard manure—which not only shades and keeps the soil cool, but every time the rain falls and fills the basin containing this dressing or mulching of manure, it carries down to the roots their best food. It will be remembered that the soil of Paris is calcareous, and there is, probably, no lack of lime for the growth of the pear.

So much for general culture. Now a word as to *pruning*, which is the great point in which the French excel us—it being in short, the *education* of the tree. "Just as the twig is bent the tree's inclined."

M. Cappe's method of pruning, which he was good enough to explain to us very clearly, is simple, and easily understood. Perhaps we should say it is easily explained with the knife in hand, and the tree before one. But as our thousands of readers are not within such convenient reach of the eye, we must do the best we can to make it clear by words.

M. Cappe confines his pruning to three seasons of the year. In the month of March, or before the buds start, he shortens back with the knife all the leading shoots, fig. 2, *a. a.*—that is, the terminal shoots at the end of each side branch. Of course, this forces out not only a new leading shoot at the end of the branch, but side shoots, *b. b*, at various places on the lower part of the shoot. These side shoots are left to grow till the *end of May*. They have then pushed out to about four or five inches in length. The ends of all these side shoots are then *pinched off*, leaving only about an inch and a half at the bottom of the shoot.

Fig. 3, shows one of the branches, with the side shoots, as they are at the end of June. The dotted lines, *b, b*, show the point to which these shoots should be pinched off.

The terminal or leading shoot, *c*, is left entire, in order to draw up the sap, which would otherwise force all the side shoots into new growth. Notwithstanding this precaution, in luxuriant seasons the side shoots will frequently push out new shoots again, just below where they were pinched. This being the case, about *the last* of August M. Cappe shortens back these new side shoots to about an inch and a half. But this time he does not pinch them off. He *breaks* them, and leaves the broken end for several days attached and hanging down, so that the flow of sap is not so suddenly checked as when the branch is pinched or cut off—and the danger of new shoots being forced out a third time is thereby effectually guarded against.

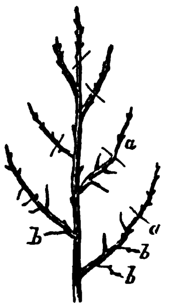


Fig. 2.

The object of this stopping the side branches, is to accumulate the sap, or, more properly, the organizable matter in these shortened branches, by which means the remaining buds become fruit-buds instead of wood-buds. They also become spurs, distributed over the whole tree, which bear regularly year after year—sending out new side side shoots, which are pinched back in the same manner every summer.

In order to keep the tre finely proportioned, the eye of the pruner must be a nice one, that he may, with a glance, regulate the pruning of the terminal branches or leaders, which as we have just said, are shortened back in March—for then is the time to adjust any extravagancies of growth which the tree may have run into, on either side; and in the summer the balance of growth is adjusted by pinching the side shoots that start out nearest the ends of the branches, quite short, say an inch and a half, while those that start near the bottom of the branch, (or the center of the tree,) where they have less nourishment, are left from four to five inches long.

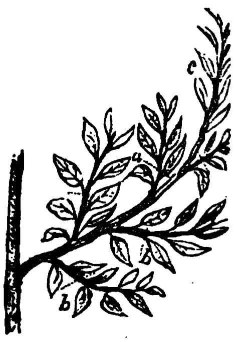


Fig. 3.

Understanding this mode of pruning, nothing is easier than to form pyramidal pear trees of the most perfect symmetry and beauty of form. But in order to have the branches regularly produced from the ground to the summit, you must plant a tree which is only a couple of feet high, so that you can form the first tier of branches quite near the ground, by cutting back the leader at the very outset—for if the tree is once allowed to form a clean body or stem, of course it is impossible afterwards to give it the requisite shape and fullness of branches at the bottom.

Our readers will see that we are not giving this account for the benefit of our orchardists. It is a refinement in horticulture which belongs to the fruit garden—but which well repays the amateur or practical gardener, both by the increased fruitfulness and beauty of the trees. From the especially healthy condition of the trees in the *Jardin des Plantes*, as well as from other analogous instances, we are led to believe that by the fine clothing of foliage which protects the bark of the trunk and branches from the violence of the sun, these pyramidal trees will be found less liable to many diseases that attack the pear tree in climates like France and the United States, than when the trunks of the trees are fully exposed to the sun.

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New Fruits.

The last annual report of the Fruit Committee of the Massachusetts Horticultural Society, gives the following results of the experiments in the culture of several new fruits of celebrity, in that region:—

Northern Spy.—Specimens raised in Massachusetts were exhibited for the first time the past season. They appear to have been much inferior in size and quality to those raised in Western New-York. The results of a single season, and for the first year of bearing, are not however generally reliable.

Doyenne Boussock.—This pear, which resembles the White Doyenne, but of larger size, has borne for several years, is highly commended by the Committee, and "appears to be worthy of extensive cultivation."

Beurre d' Anjou and Paradise d' Automne—"fine pears, that do not appear to have received that attention from cultivators, to which they are justly entitled."

Beurre Langelier—"gives promise of maintaining in this country its European reputation—a handsome fruit, of good size, yellow color, with a fine blush in the sun,—melting, juicy, and of an agreeable taste—whose season is January and February, though some of the specimens this year ripened in November."

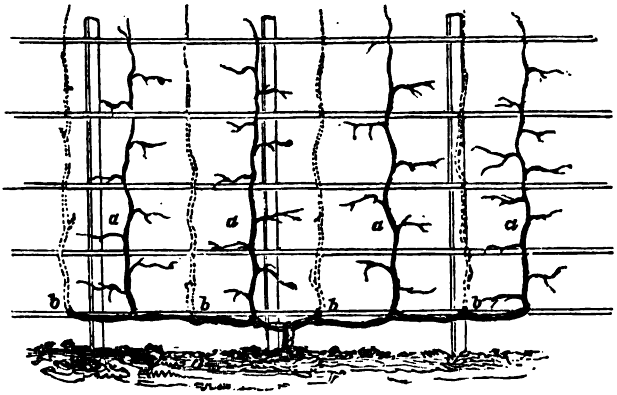

Fig. 1.

Onondaga or Swan's Orange—"although not in the very first rank for excellence—different specimens varying much in quality,—its general good qualities, size, and beauty,—with the reputed productiveness, vigorous habit, and early bearing of the trees,—will, it is believed. render it worthy of an extended cultivation."

The Reine Claude de Bavay Plum—this new variety has excited a greal deal of attention—the Committee say of it, "it is a plum of medium size, of yellowish green color, and sweet pleasant flavor—a cling-stone, ripening late in the season, and keeping into October—thus far hardly maintaining the reputation that preceded its introduction."

Jenny's Seedling Strawberry.—"The plants are very hardy and productive; the berries very solid and heavy—when perfectly ripe, losing their acidity, and becoming very fine in flavor. In the opinion of your committee, it is a very estimable variety."

It appears that a very large number of new fruits, introduced under high names and with the highest recommendations, ultimately prove of no value. The committee arrive at the following very just conclusion:—"Upon the whole, it is believed that it will prove the best and safest course for beginners to make their selections from well known and established kinds; unless, in their estimation, the gratification of a desire for novelties, —an interest in watching the progress and development of some new varieties, and of contributing from their experience a share to the common stock of pomological knowledge—form a sufficient recompense for probably repeated disappointments."

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Summer Pruning Hardy Grapes.

"Mr. Editor:—Will you please furnish a few plain and simple directions for pruning out-door hardy grapes, for one who has no experience in the matter—mine for some years past have been quite neglected, and neither the quantity nor the quality of the grapes are what I wish. R. D."

To suffer the rapid-growing American varieties of the grape, as the Isabella and Catawba, to grow without pruning or restraint, from a rich and well cultivated soil which all should have, is very much like planting a crop of corn so thick that no grain can ever be formed or properly matured in the midst of its profusion of stalks and leaves. A proper thinning by means of pruning becomes indispensible. To do this work right we must first understand distinctly what is wanted.

The grape bears its bunches of fruit on shoots of the present year's growth, which spring from buds on shoots of the previous year. If therefore, no pruning is given the vine, a profusion of shoots will interfere with each other's growth, and all will be weak and feeble; and the bunches of fruit will consequently be small, badly ripened and deficient in flavor. Hence the first requisite is to obtain a proper number of vigorous and evenly distributed shoots. For this purpose, let the vine be trained on the trellis as represented in Fig. 1, by extending two principal branches or arms each way horizontally, near the ground, from which spring upwards the fruit bearing shoots, distributed at regular intervals. When young vines are planted this extension must be gradual, requiring some years to cover the intended surface; that is the pruning should be such that there may be first only two upright shoots, then four, then six, and so on, by successive years. If an old vine has been neglected, it must be pruned back in autumn or winter to a mere stump, leaving a few buds for new shoots, only two of which are to be allowed to grow for forming the horizontal arms.

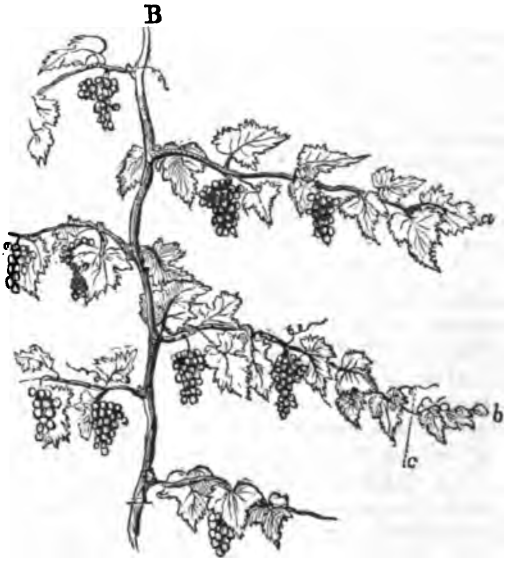

Fig. 2.

After the trellis is covered as shown in Fig. 1, a regular annual crop is secured by the following management. The shoots *a. a. a. a.* are those of last year's growth, and the short side-shoots springing from them are those of the present year which bear the fruit. A portion of one of these upright shoots is shown on an enlarged scale in Fig. 2,—A B, being the two years' wood, and the smaller side shoots with bunches of fruit, as *a*, *b*, those of the present year. While these are thus affording a crop the current season, provision must be made for the next. For this purpose, last years' bearing shoots were to be cut off to a bud each at *b. b. b. b*, (Fig. 1,) so that the strong, upright shoots shown by the dotted lines, shall be now growing for next year's bearers. These being the present year's wood, will of course bear fruit, but all the bunches must be removed as soon as they form, that all the strength otherwise expended in their growth may go to the production of wood, until their proper time for bearing shall arrive, on their new side-shoots next year. Thus a constant alternation of one and two years shoots is kept up.

Most of the pruning already mentioned is done in autumn, winter, or early spring; but summer pruning is of much importance, if large, well-filled bunches of the best flavored grapes are desired. If the vine be left to itself after receiving its winter's pruning, a great profusion of useless wood will be produced, resulting in a similar evil to entire neglect, but less in degree. It should be occasionally examined, say twice a month during the early part of the summer, and only enough shoots left to cover the surface evenly at regular intervals; and also to allow at regular intervals the clear and unobstructed growth of the new uprights, shown by dotted lines in Fig. 1. The bunches of fruit must be reduced in number so that there may be only two on each side shoot; and after the bunches have well formed, the side-shoots are to be pinched or broken off as shown at the dotted line *c*, Fig. 2, so as to leave two or three joints above the upper bunch as at *a*. If allowed to run without pinching off, there will be too thick a growth of leaves and shoots; while on the other hand, if a sufficiency of leaves are not left, the fruit cannot well mature. For, it must never be forgotten, that the *full growth* and *perfect ripening* of the FRUIT, depends wholly on a *full supply of leaves, with a free admission of light and air for their healthy development.* Hence the entire error of the practice of picking off the leaves to let the light in on the fruit. And hence too, the longer the side shoots extend themselves before being nipped, provided they do not crowd or interfere with each other, the better matured will be the grapes.

These directions will not be new to experienced cultivators; but to beginners, from whom we have many inquiries on the subject, they may prove valuable.

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Miscellaneous Items.

Large Market Garden.—The **Fitches**, of Fulham, England, keep 12 horses in constant employment in marketing vegetables, drawing manure, &c., for their market garden. They employ 150 laborers in summer, and 70 in winter. So perfect is their culture, that a visitor asserted that he had not seen a weed on their whole 150 acres.

Quinces on Thorns.—W. **Bacon** states in the Horticulturist, that some of the most beautiful quinces he has seen, grew on stocks of the common native thorn, the specimens being large, fair, and possessed of golden beauty. The stocks were an inch to an inch and a half in diameter, and were grafted about two feet high. These trees are less bushy, require less pruning, are more hardy, and are not liable to the attacks of the borer. The country abounds with thorn bushes, which may be thus changed to objects of beauty and usefulness.

Hedges.—Some of the papers speak of fine hedges being made of the Siberian Crab. A drawback is its liability to the attacks of the mice. Even the Osage orange, it appears, has been injured by mice. The buckthorn, on account of its poisonous quality, appears to be proof against all attacks of the kind, at the same time that it is easily propagated, easily transplanted, needs clipping but once a year, and assumes a thick, dense, and hedgy growth.

The Diana Grape.—**Robert Harwell** of Mobile, says, "The Diana Grape fruited with me this year, and is certainly the best grape I ever tasted. The vine is a strong grower and good bearer, and will suit this climate as well as we could desire. I had Catawba grapes ripe at the same time the Dianas were ripe, and although the Catawba is a most excellent grape, it cannot be compared with the Diana for fine flavor."—[Hort.]

Verbenas.—A correspondent of Moore's New-Yorker, gives the following directions to make a verbena grow so as to be really a verbena. Remove the earth in the spring from a circle two and a half feet in diameter, and to a depth of one foot; then loosen the soil at the bottom thoroughly with a bar. Put in some well rotted fine manure as the earth is thrown back, rounding slightly the surface. In this bed set out a plant of *Robinson's Defiance*. Its splendor will repay the labor.

Good Treatment.—**Linus Cone**, of Oakland county, Michigan, states in the Michigan Farmer, that there is now standing in his fruit garden a pear tree set a year ago last spring, when about as large as one's finger, and two feet high. It is now five inches in diameter, eight feet high, and the united length of the growth of the several branches last season, was fifty feet. No further explanation is needed than the simple fact that he is one of the most skillful culturists in that state.

Selling Fruit in Illinois.—The Prairie Farmer informs us that a man living near the Pecatonic river, who some years ago set out an orchard of seedling apples, giving them little care, sold the past season $400 worth of fruit from them; and another man on the same river, who selected good varieties and gave his trees good attention, sold fruit to the amount of $1,000. A. A. Hilliard, of Macoupin-co., Ill., brought 60 bushels of peaches to Chicago merely as an experiment, and sold them for $2.50 per bushel. In the eastern cities they sold so low as scarcely to repay gathering.

Kill the Weeds.

If June is the season of flowers, it is equally the season of weeds. The soil has now become warmed, and the vital forces of nature, awakened from the dormancy of winter, are evinced in the speedy germination and rapid growth of all plants, whether favorable or unfavorable to the interest of the farmer and gardener.

Weeds should be destroyed as soon as they appear. The sooner they are attacked, the easier they are killed, the less injury they do to the crop, and the less they exhaust the soil. The mere brush of a hoe, or the scratch of a harrow, will effect more in the destruction of weeds which have just vegetated, than a much greater amount of labor applied after they have had time to extend their roots and become firmly fastened in the soil. The farmer and gardener should therefore begin with a determination to prevent, in the outset, the growth of everything injurious to crops, and they must follow up the warfare through the season, not only for the benefit of present, but future harvests; for there is no truer maxim in agriculture, than that "one year's seeding may make seven years weeding."

When the weather is dry, weeds are easily killed, in their earlier stages, by being simply cut up or torn up, and left on the surface of the ground. In wet weather, or when weeds have obtained a larger size, they are more retentive of life, and though dug up and exposed to sunshine for a day or two, may take root and grow again if rain should then occur. Some weeds are much harder to destroy than others. Of those which grow in gardens and among cultivated crops the Purslane (*Portulacca oleracea,*) and the Goose-foot, called Pig-weed in some districts, (*Chenopodium album,*) are, perhaps, the most difficult to kill of *annual* weeds. It is, however, only on rich land that they grow with such strength as to become a serious obstruction to cultivation. Several species of annual grasses, as they grow on almost every kind of soil that is cultivated, may be considered greater enemies to the farmer.

In damp weather weeds are more effectually destroyed by being buried, than by being left on the surface; but the former mode requires more labor. In gardens, however, the additional labor is not important. It is common to rake the weeds together in bunches, and it is only necessary to dig small holes into which they may be pressed by the foot, and covered over with two inches of earth. Their abundant juices soon cause a rapid fermentation, and in a day or two they will be totally decomposed. Only a slight covering is required, as the heat generated in the weeds will soon destroy the vitality of all in the heap.

In field cultivation, the harrow and cultivator are good implements with which to kill weeds; but to do it to the best advantage, they should be started as soon as the weeds can be seen, and kept running as often as they appear, so long as the crop will admit of their passing without its being injured. In garden culture, the scuffler or Dutch hoe, is one of the best implements. Those which have an edge on each side of the plate, and are attached to the handle by rods curving upward, are best. The operator can work it either to or from him. It is generally *pushed* through the weeds, but if one happens to be missed by this motion, it is easily cut as the tool is brought back for a new push. Another advantage of this tool is, that it does not change the general surface of the ground, and does not disturb the roots of cultivated plants, while from the manner in which it cuts the weeds, they are more likely to die than if they had been taken up with all their roots. They are also easier to work than the common hoe, and can be used with less liability of packing the soil in wet weather.

A hand-plow may be used in gardens with advantage, and we have thought it singular that such an implement was not oftener seen. It should have a wheel in front, by which the motion of the plow is steadied, and its depth regulated. The frame may be fitted to receive tools of different shape, so that the soil may either be merely skimmed, or loosened and turned over, as desired. Two men, one to draw and the other to push and guide the implement, will go over more ground in a day than they could with hoes, and for many purposes the work would be done much better. The plow itself should be made of steel, as this metal will carry a much keener edge, and do more thorough execution among weeds, and will require less force to carry it through the soil than either wrought or cast-iron.

NEW PUBLICATIONS.

The Fruit Garden; a treatise intended to explain and illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the propagation, transplanting, pruning and training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, etc.; the laying out and arranging different kinds of Orchards and Gardens, the selection of suitable varieties for different purposes and localities, gathering and preserving fruits, treatment of Diseases, destruction of Insects, description and uses of Implements, etc.; illustrated with upwards of 150 figures, representing all practical operations, forms of Trees, designs for Plantations, Implements, etc. By P. Barry, of Rochester, N. Y. Published by Charles Scribner, New-York.

This is a handsome volume of about 400 pages, very neat in its mechanical execution, and in the appearance of its illustrations. We have not yet had an opportunity of making a thorough examination of its contents, and must therefore defer a more detailed notice. It is for sale by Gray, Sprague & Co., of this city.

Notes on North America, Agricultural, Economical and Social. By James F. W. Johnston. Two vols. Boston: Little & Brown. Edinburgh and London: Blackwood & Sons.

Most of our readers are aware that Professor Johnston spent some time in the British Provinces and the United States, in the latter part of the year 1849 and early part of 1850. He delivered a valuable address at the Fair of the New-York State Ag. Society at Syracuse, and an interesting and instructive course of lectures for the same association, at Albany. These have been published, and have been extensively read by the people of this and other states. He also delivered courses of lectures at Boston and Washington. His opportunities for seeing the practical agriculture of the United States, were less favorable than they would have been if his visit had been at another season of the year. With the exception of the few days spent in this state about the time of the Fair, his time, from his first landing at Halifax, till about the first of January, was spent chiefly in New-Brunswick, having been engaged in making an agricultural survey of that Province. From Syracuse he went to Buffalo, by railroad, without delay, and from thence, by Niagara Falls he passed down Lake Ontario and the St. Lawrence to Lower Canada and New-Brunswick. He came to the States again in January; his lectures in this city were given in that month, and he left for England on the third day of April. His journey was extended as far to the south as Alexandria, Va.,—his route and mode of conveyance, in all cases, being that usually adopted by business travelers. This will show that he had comparatively little opportunity to study American agriculture, and will account for various mistakes into which he has fallen. His work is designed as a record of what passed under his observation during this visit. We cannot, at this time go into an extended analysis of it. Though designed, chiefly, for the British market, it will be found in many respects interesting to the American public, to whom we recommend its perusal. At the same time we cannot refrain from extracting the following sentence, which will serve as a *key* to understanding some passages which will be likely to attract attention: "It is unpleasant to a stranger to be always called upon to admire and praise what he sees in a foreign country; and it is a part of the perversity of human nature to withhold, upon urgent request, what, if unasked, would have been freely and spontaneously given."

The work is for sale by Little & Co., Albany.

The Pocket Companion, for Machinists, Mechanics, and Engineers. By Oliver Byrne.

The author of the above work is known as the Editor of the Dictionary of Machines and Mechanics—Professor of Mathematics in the College of Civil Engineers, London, &c. The publishers are Messrs. Dewitt & Davenport, Tribune Buildings, New-York. It contains a great amount of information of the most valuable kind, in reference to natural philosophy, mechanics, &c.—among which may be mentioned an Almanac for all time—past and future; a universal Thermometer, showing the sensible heat of many substances according to the three most approved thermometers; the most accurate Planetary tables; tonnage of Ships; the thickness of Water Pipes of Iron, Cast Iron, Copper, Lead, &c.; dilation of Solids by Heat; Wind and Windmills—pressure of the wind moving at given velocities; the Weights of different countries compared; Torsion, Twisting, and Cohesive Powers of Bodies; Alloys and Compounds; the Retardation of Railway Trains; Mechanical Powers, &c. &c., with many other things which we cannot notice here. It is for sale by P. L. Gilbert, of this city.

A Practical Treatise on the Construction, Heating, and Ventilation of Hot-Houses; including Conservatories, Green-Houses, Graperies, and other kinds of Horticultural Structures; with practical directions for their management in regard to Light, Heat, and Air; illustrated with numerous engravings, by Robert B. Leuchars. Boston: John P. Jewett & Co.

This book is from the pen of a highly intelligent practical gardener, whose able contributions to the Horticulturist and other periodicals, have made him favorably known to the public. Mr. Leuchars has produced the best work on horticultural structures that has yet been offered to the American reader. His remarks in relation to constructing, lighting, heating, and ventilating hot-houses, based as they are on his own experience, are particularly valuable, and will be of great benefit to beginners in this branch of horticulture. It is a handsome volume of 366 pages, and is sold at the low price of one dollar.

The Western Agriculturist.—This is the title of a monthly journal devoted to agriculture, published at Columbus, Ohio, edited by Professor W. W. Mather, Corresponding Secretary of the Ohio State Board of Agriculture. Prof. M. has been favorably known to the public as a geologist of high standing, and his general knowledge of the sciences which relate to agriculture well enable him to impart much useful information through the periodical placed under his charge. Each number of the work contains thirty-two pages octavo. It is published by J. H. Riley & Co., at one dollar a year, in advance.

ANSWERS TO INQUIRIES.

Raising Chestnut Trees.—In answer to our request for information on the subject of raising chestnut trees from seed, we have received several communications, the most essential portions of which will be given to our readers in time to guide them in regard to the planting, which cannot be done till the next crop falls from the trees.

Irrigation.—"Have any of your correspondents had experience in irrigating side-hill land, of a light loamy texture, in winter and spring?" C. S., Shelburne, Mass. We think there can be no question that the irrigation of such land in *spring* would be beneficial, but should have doubts as to its expediency in winter. (See Col. Lincoln's communication on this subject, page 55 current volume.)

Field Peas.—A. B. It is best to sow them as soon as the soil is in condition to be worked. Three bushels to the acre is the quantity usually preferred for seeding. They may be worked in with the cultivator or harrow, or buried with a small plow. The Canada field pea, and the Golden field pea, are considered the best varieties. The pea makes a valuable crop for early feeding, coming in before any other crop. As soon as the peas are fairly filled, the vines may be cut and fed to hogs in pens; or the hogs may be made to harvest the crop for themselves by fencing off, by boards or hurdles, a small part at a time, and allowing the hogs to gather all the peas before another piece is enclosed.

Leached Ashes and Muck.—"Will leached ashes that have laid for fifty years, and muck from a cedar swamp, make manure for grass-land and other land? The muck is of excellent quality. Would it be profitable to draw it on land by paying an Irishman $10 a month? distance not over fifty rods." The value of the ashes depends much on the situation in which they have laid for "fifty years." If they have been much spread about, and have been thoroughly leached by the rains, there is not, probably, much potash left in them—and potash is the essential element in decomposing the peat. But if, as you say, the peat "is of excellent quality," it may be worth applying as manure, by itself. But our advice would be to make three experiments. 1. Take equal quantities (say a cart-load each) of the peat and old ashes and mix intimately together, in a heap. 2. Put two loads of peat in another pile. Let these two piles lie till fall, and then apply them to equal portions of the same quality of soil, as a top-dressing for grass or wheat. 3. Apply the same quantity of the old ashes to the same quantity of land at the same time. Govern your future action by the results obtained in these cases. You can also try other experiments. This will be better than to hire the "Irishman at $10 a month," for much length of time, specially to do the work you propose. You will find it *will pay* to put the peat or muck into your barn-yards in sufficient quantity to absorb the urine and the liquids from the manure.

Paving Barn-Yards.—If your yards have an open, loose soil, paving or flagging, laid on a coating of clay, will prevent the waste of the liquids by soaking into the ground.

Plan of a Barn.—Various queries by W. D. S., Westchester, Pa. "In building a barn on a hill-side, would it be policy to have a cellar under it for keeping manure?" Yes. "Which would be best, without reference to cost, a stone barn or wooden one?" Stone, on account of durability. "Will a barn built of stone, two stories high, with a cellar under it, be liable to fall, from the great height and weight of the walls?" Not if the work is properly done, any more than a house would that has a cellar under it. "Will manure keep in good order in a cellar, or under a tight roof?" There can be no better place for manure than a cellar—the low temperature and moisture, preserving it from waste by fermentation. Horse-manure, if mixed with a large quantity of straw, and if very dry, may heat and waste. If horses and cattle are both kept in the barn, mix the manure of each together by spreading, and it will not heat too much. It is a common practice to keep swine under a barn of this kind, on the manure; they mix it together and compress it sufficiently to prevent violent fermentation. Simply a tight roof, or even a close room, is not as good for keeping manure as a cellar, unless care is taken to keep it moist. If it becomes dry, it will lose its ammonia, even if it does not actually *heat*. In such a room, therefore, there should be some means of keeping it moist. Water may be turned on by a spout, from a pump or aqueduct. "If there is a cellar under the barn, how long will the floor last?" In some instances it has lasted twelve to fifteen years. There is no need of letting cattle run on the manure to tread it, if hogs are kept on it. (See Cultivator for June 1847, and November 1850.)

Draining for Grapevines.—J. T. C., Pikesville, Md. If your soil is, as you say, retentive of moisture, we should say, decidedly, that drainage would be beneficial to the production of grapes.

Ground Mice.—"Can you give me any plan by which I can rid my garden of ground mice?" S. M. T., Glen Cove. These animals can be destroyed by arsenic, in a similar way to that taken to kill rats by the same substance. That species of mice, however, feed mostly on grass-roots, vegetables and fruits; hence apples, potatoes, or something of that nature, would be most suitable for baiting them with the poison. Perhaps some one may know of a better mode of killing them. If so, they will confer a favor by communicating it.

Practical Work on Agricultural Chemistry.—"A Subscriber," Tompkins county, N. Y. If you have not Prof. Norton's "Elements of Agricultural Chemistry," we advise you to get that in the first place, and if you then require some other book on the subject, get Johnston's "Lectures on the Applications of Chemistry and Geology to Agriculture." They are both for sale here—the former at 60 cts., the latter at $1,25.

Best Strawberry.—"A Subscriber." Burr's *New Pine* has received the first premium of several Horticultural Societies, as the best variety, quality, size, and productiveness considered. It is also a firm fruit and will bear handling without injury.

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Republican Extravagance.—The editor of the Home Journal tells us that on New Year's day, he saw ladies with "shawls, each one of which was the price of a farm; bracelets as costly; and minor articles of dress, each of which cost more than ten life-memberships to a Bible Society."

Mediterranean Wheat.

This wheat was introduced into the country chiefly on account of its peculiarity in resisting the attack of the Hessian fly. Its value in this respect arose from the sheath adhering very closely to the stem, which prevented the young worms from obtaining a lodgment where they would injure the plant. Besides this advantage, however, the Mediterranean wheat proved to be valuable in this country on account of its escaping the wheat-midge ("weevil.") Its exemption from injury from this insect is owing to its earliness—the grain being generally out the way by the time the fly makes its appearance. It is a variety that generally yields well, and is heavy in proportion to its measure. But an objection to it has been, that the millers were unwilling to pay as much for it, by four to six cents per bushel, as for the *white* wheats—the Mediterranean being a light red variety. Some experiments show that this wheat is not only of a highly nutritive quality, but that it is capable of making excellent flour. **Wm. Craig** states in the *Michigan Farmer* that he had sixteen barrels of superfine flour made from seventy-five bushels of this kind of wheat being at the rate of a barrel to four bushels and forty-one pounds. He says he sold some of it to a respectable baker in Detroit, without letting him know what kind of wheat it was made from, and requested him to say how he liked it. In a few weeks he received a line from the baker, saying—"The flour I like very much—how can I get more of it? *I think it is the best I ever had.*" Mr. C. says a neighbor told him that it took as much liquid to "wet up" two loaves from the flour of Mediterranean wheat, as it did to make three loaves from the white-flint.

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To Farmers' Boys.

Eds. Cultivator—I am glad to see that you are willing to devote a portion of your excellent publication, for the benefit of farmers' boys. With your leave I would present the following, for the attention of your youthful readers:

For what reason is it that you farmers' boys, try so hard to come from your pleasant abode on the farm to the city, where all is anxiety and trouble?

Would you be strong? go follow up the plow;
What if it brings the sweat upon thy brow?
Would'st live in the city? nothing there can charm;
But come and live, in health and peace, upon a farm.

Boys, your future calling is one of the most healthy and pleasant of any. It is the most beneficial to mankind, and yet it is as little known (as a science) as any one business. You now learn the practice, but it would be well for you to learn the science also, of agriculture. In the absence of agricultural schools, the best way to learn this science, is to obtain *and read* some of the best agricultural books. "But this is Book Farming," methinks I hear you exclaim. Let us see if *book* farming can be useful. It is certain, that if any one of you should go to an elderly farmer, and ask him for information in regard to some subject connected with agriculture, he could, without doubt, give you much good advice, the benefits of which experience has taught him. This advice could easily be written and sent to the papers, where it would benefit not only yourselves but many others. It is true that the writers of books often make great mistakes, but it is not very common for a farmer to make a mistake in giving advice; thus a farmer may deprecate corn cobs, either steamed or ground, as food for cattle or other live stock, while they are in reality an excellent feed. This tirade against book farming, therefore, must fall to the ground, for none but an ignorant or thoughtless person could sustain such an idea. One of the first things for you to learn is, what the different soils, crops, and manures are composed of, and this is to be done by means of such books as Johnston's Catechism of Agricultural Chemistry and Geology, Johnston's Agricultural Chemistry, Norton's Elements of Scientific Agriculture, and numerous others. Perhaps you say, "what is the use of all this science?" I answer, by agricultural chemistry we can find the component parts of a soil; we then find the component parts of the crop we wish to raise; we can then see what the soil lacks, to form the crop in perfection. Suppose, for instance, we find that there is not enough sulphuric acid in the land, why then we must find what manure will supply the deficiency. We then find the analyses of the different manures near at hand; some have very little or no sulphuric acid, but when we find the analyses of gypsum or plaster of Paris, we perceive that it is composed of 40 lbs. of sulphuric acid to 28¼ lbs. of lime. In 68¼ lbs. of gypsum, therefore, we find that this would be a good application. It is necessary that a farmer should know the composition of these substances. This can be illustrated in this way. Suppose any of you should turn baker, you would have to learn what the different kinds of cakes, pies, &c. were composed of; you would have to learn the proper proportion of each ingredient. In the same way you should know what all crops are composed of, as I said before, as well as manures and soils. The baker also, knows that if he would continue to make pies, cakes, &c. he must replenish his stock of flour, sugar, eggs, &c., the different ingredients of which they are made, for it would be folly for him to suppose that he could keep on making cakes, pies, &c., without replacing those substances into his flour barrel, sugar barrel, &c. In the same way a farmer must not expect to raise a crop without he returns the substances he takes from his land in the shape of crops. Now I think you can plainly see that chemistry is of great use to the farmer.

In learning from books you may come to something you cannot understand. If you do find anything you cannot comprehend, the best way for you to do, is to write to the editors of this paper, and they will probably either print it for some other person to answer, or else will answer it themselves. Boys, you can try experiments of various kinds. Thus, for example, your fathers often discuss the merits of thick and thin planting. It would be a good plan for you to get your father to allow you a small patch of ground, and then you can thoroughly pulverize the soil and put the proper manure on; then divide the patch into two equal parts; on one half you can sow wheat, barley, oats, or rye. broadcast, and on the other part you could sow it in distances of from two to six inches apart, according to your choice. If your patch is large enough you might try all the distances from two to six inches, as well as broadcast; but be sure to have all the divisions of a size, and you should be particular to give the grain in all the lots exactly the same treatment. When ripe, keep the lots separate and thrash them separately, and then measure each lot, and note down the particulars of the distance apart that the seed was sown, the size of the patch, the quantity of and kind of manure, also the quantity of seed obtained; then write the results for The Cultivator. These experiments can be varied in many ways.

In reading Johnston's Catechism I find that a soil "may be barren though it contains all the substances which plants require, if it contains a very large proportion of one, such as oxide of iron, which in great quantity is injurious to the soil." Then I would inquire what I should do to improve a soil in this condition? I find in the above work that "I should thorough drain and subsoil it, that the rains might sink through and wash out the injurious matter, and should lime it if it required lime." I will ask you, boys, if, when the rain washes out this injurious matter, it will not also wash out the good matter of the soil? I would be much obliged if some one would be kind enough to answer this question.
ONE WHO INTENDS TO BE A FARMER.

INVITATION.

BY SYLVANUS.

"If a man would eat, drink, die, and be forgotten, let his dwelling place be in the *city;* if he would live, love, and be remembered, let him speed him to the *glens of the mountains.*"—M'DONNOUGH.

From the city's strife and din, all ye weary Toilers come,
From the prison house of Care with its never ceasing hum,
From the moral desert flee to the beautiful and free
Land where Innocence and Glee, dwell together evermore.

To the land of beauty come, where in summer glades at eve,
Fairies sing with sylvan gods, while the balmy zephyrs grieve;
To the land of hill and dell, where the Muses love to dwell,
And in numbers sweet to tell tales of beauty evermore.

Where the tiny wavelets sing songs of joyfulness and glee,
While the birds on buoyant wing chant a chorus wild and free;
Where in soft Elysian bowers zephyrs woo the budding flowers,
Crowning with delight the hours, gliding stealthily away.

Here, in Nature's wide domain, Love and Beauty ever dwell,
Making bright each lonely cot, lighting up each sylvan dell;
Here before the face of Ill, Autumn's shade and Winter's chill,
Summer flowers are blooming still, shedding fragrance evermore!

Then ye toiling careworn Millions, leave the city's strife and din
Nature's storehouse lies before you, Nature bids you enter in;
Peace and plenty ye shall find, balms to soothe a wearied mind,
Care and Sorrow leave behind, Sin, Despair, and brooding Ill.

Come ye Toilers worn and weary, taste enjoyment pure and free,
Smiling Health awaits to greet ye when the brooklets sing with glee;
Where Aurora's golden train, flashing glory o'er the plain,
Waketh many a thrilling strain, bright and joyous, pure and free!

Then arise ye Sons of Labor, time shall bring thy sure reward,—
Soon the world shall own thee ruler, sovereign prince, and rightful lord;
Soon, for lo! thy morning star riseth proudly from afar,
Soon shall thy triumphal car crush Oppression's bloody throne!

April 19, 1851.

"WORM FENCES."—The common worm rail fence, causes snow to accumulate in the form of drifts, in large bodies. We notice that at a late discussion of the East Bloomfield Farmer's Club, (reported in the *Rural New-Yorker*,) Mr. IRA PECK estimated that the damage done to the wheat crop by the snow-drifts formed by those fences, was equal to one acre in thirty of all the wheat sown in that section.

NOTES FOR THE MONTH.

Acknowledgments.—Since or last, communications have been received from Dr. M. Barnes, Prof. J. P. Norton, Youth of Bridgewater, A Subscriber, Sylvanus, A Subscriber from Hannover, W. D. Sugar, W. C. A.

Books, Pamphlets, &c., have been received as follows: Notes on North America, Agricultural, Social and Economical, by Prof. J. F. W. Johnston, 2 vols. from Little & Co., booksellers, Albany.——Reports of Regents of the University, and of the Commissioners in charge of the publication of the Geological Reports, from Dr. T. R. Beck.——Proceedings of the Vermont Fruit Grower's Convention.

Our Premiums.—We have sent our dollar Premiums to all those who have informed us as to the particular book they wanted. It will be recollected that all Agents who have sent us fifteen or more subscribers for our current volume, except those whose names were published in our April No., as entitled to higher premiums, are entitled to Thomas' American Fruit Culturist, or such other dollar book as they may select. Those who have not received their books, are informed that we shall be glad to send them as soon as informed as to the particular book desired.

Messrs. Morris' and Vail's sales of Stock.—It will be recollected that the sales of these gentlemen take place this month—Mr. Morris' at Mount Fordham, Westchester county, N. Y., on the 24th, and Mr. Vail's at Troy, on the 26th. The particulars in regard to the herds of these gentlemen, will be found in their respective advertisements in this journal, and in their catalogues, which may be had on application to them, or at this office. These gentlemen have been at great expense in establishing their herds, and each have animals of great value. We shall look for large gatherings of farmers and stock raisers on the occasions alluded to.

Location of the next Fair of the New-York State Agricultural Society.—We learn from John Delafield, Esq., the President of the Society, that arrangements have been made for the occupancy of the "Rapids tract," so called, for the coming State Fair. Mr. D. says—"The ground is beautifully situated on the margin of the Genesee river, elevated about 100 feet above the stream, affording a beautiful view of the windings of the river. It is about a mile and a half south from the center of the city, (Rochester,) presenting a good firm sod, and an area of twenty-five acres or more." The Fair will be on the 17th, 18th and 19th of September.

Sulphate of Ammonia as Manure.—A remarkable fact in regard to the operation of this substance, is stated in a late English work. It was used as a top-dressing for grass-land, at the rate of two hundred pounds per acre. Its effects on the growth of grass were highly favorable; but its effects on the *quality* of the herbage were such that the *dairy farmer* is cautioned against the use of the substance on pasture land. It is stated to flavor the milk in such a way that it cannot be used; that the cream cracks, and will not mix with tea, and that the butter and butter-milk are disagreeably flavored.

National Park at Washington.—We are gratified to learn that the large tract of public ground, (about 140 acres,) on which the Smithsonian Institution and the Washington Monument are located, is about to be converted into a public park, under the direction and in pursuance of a plan reported to the Government by A. J. Downing, Esq., the well-known author, and editor of the Horticulturist. From Mr. Downing's good taste, sound judgment, and intimate practical knowledge of effective planting, we have reason to believe he will perform this duty in such a manner as to render this National Park one of the most attractive objects at the seat of our National Capitol. The climate of Washington is most favorable for the object—as it will permit the introduction of a large number of the most highly ornamental trees and plants, which would not stand the climate of any section of this state.

Professor Norton's Lectures.—We would invite the particular attention of young men who intend to become farmers, to Prof. Norton's Lectures on Scientific Agriculture, an advertisement in reference to which will be found in this number. The department to which Prof. N. is attached, belongs to Yale College; but those who attend the lectures are not necessarily connected with any other department of that institution, and no previous preparation is required. The principal points to which the lectures relate are as follows: "The substances of which the plant, the soil, and the animal consist, are shown and described. The cultivation of the soil, the qualities necessary to its fertility, the means of improving it by drainage, the composition and effect of the manures applied, are all topics of great interest, and naturally lead to the constitution of the crop, the theories of rotation, &c. The remaining department is that of the animal, the character of whose parts is given, and with this the various theories of fattening and feeding. In this part of the course the products of the soil are also examined, with a special reference to their nutritive and economical value."

We have before expressed our opinion in relation to Prof. Norton's abilities to give instruction on the applications of science to agriculture. Many of our readers have been long familiar with his writings which have appeared in this journal, and of the thousands who have read them, we have never heard any other expression than that of warm approbation. He has a happy faculty of adapting knowledge to useful purposes, and of rendering what, in the minds of some men is mysterious and uninteresting, plain and attractive. It is this, in connection with the self-evident utility which characterises his writings, that renders them so highly prized by the practical farmer. It will be seen that Prof. N. receives students at any time.

Budding Peach Trees.—Mr. C. D. Bent, of Hannibal, Oswego county, N. Y., informs us that scions of peach trees may be kept from the usual time of cutting them, till the bark of stocks will start, say in June,—and insert the buds in the usual way of budding. He states that they will grow as much the same season, as if they had been inserted the previous autumn. It is, of course, necessary that the scions should be kept in a cool and rather damp place.

Importation of Sheep.—Wm. R. Sanford, Esq., of Orwell, Vt., has lately returned from Europe, whither he had been for the purpose of procuring sheep which he deemed suitable for improving the Merino flocks of the United States. After a critical examination of all the flocks of note in Spain, France, and many of those of Saxony and other German states, he made a selection of twenty-five in Silesia, and two selections from flocks in France. In making his examinations and selections in Germany, he was accompanied by Chas. L. Fleichmann, Esq., American consul at Stuttgard, whose intimate knowledge of the country, and acquaintance with the most distinguished sheep-breeders, was an important aid. We had the opportunity of seeing the lot purchased in Silesia, as Mr. S. passed here on his way to Vermont, and were well pleased with them. They are mostly of only one year old, and were, from the effects of their long confinement not in the best condition to *show;* but they have generally good forms, are uniform in appearance, and remarkably well covered with wool on all parts of the body. The staple is finer than that of most Merinos in this country, and at the same time the weight of fleece in proportion to the carcass appears large, especially in the ewes. The wool is *oily* but not *gummy*, and Mr. S. states that the average of the 600 head belonging to the flock from which these were selected, has been four pounds per fleece, clean washed. They are represented in the certificate received by Mr. S. of the breeder, as being *purely* descended from the Infantado Nigretti flock of Spain, a selection from which was taken to Silesia in the year 1811. The sheep purchased in France, are expected to arrive shortly. We understand that Messrs. E. Hammond, of Middlebury, R. T. Hall, and Wm. Remilee of Cornwall, Vt., are associated with Mr. Sanford in these importations. Mr. S. informs us that he has purchased a Devon cow and heifer of Mr. George Turner, Devonshire, England, which will come to this country in the course of the season.

Mechanics' Institute.—This institution was founded in New-York, in 1831. Its object is the improvement of the mechanical classes by means of lectures, holding conversational meetings, debates and discussions, public exhibitions of specimens of mechanical productions, &c. It occupies a large building—comprising four floors, each containing 3,500 square feet—at the junction of Division-street and the Bowery. It has a large library and reading-room, and is fitted up on the general plan of the Polytechnic Institution in London. A steam engine has been erected for the purpose of showing the operation of new machinery. The exhibition was opened on the 15th May. It is designed to keep the exhibition constantly open, and it will afford an interesting and attractive place to persons who wish to obtain information in reference to mechanical philosophy. For particulars apply to Thos. C. Dodd, Actuary.

York County, N. B., Ag. Society.—This Society will hold its next show at Fredericton, on Tuesday and Wednesday, the 14th and 15th days of October next. Very liberal premiums are offered, embracing all kinds of live stock, and the principal agricultural products of the province. We are glad to see that the agriculture of this section is improving.

New-England Poultry Society.—By the second annual report of this society, it appears to be in a flourishing condition. The treasury has a balance on hand of upwards of $200. Vigorous preparations are in progress for another exhibition at Boston in November next, and the report gives a full account of the last. Attached to the document are several pages of cuts of fowls. Some of these represent well-known and valuable varieties; others belong to *newly invented* sorts which were brought out at the last show,—as "Imperial Chinese," "Wild Indian Mountain Fowl," "Bengal Mountain Game Fowl," "Burrampooter Fowl," &c. They are from the same *manufactory* as the "Plymouth-Rock Fowl," "Fawn-colored Dorking," "Yankee Game," "Pride of India Fowl," and "South American Eagle Fowl," which were advertised a year ago. From the ugliness of some of the figures, it might be supposed they were mere caricatures; but persons who have seen the *originals* will have no hesitation in admitting that they are quite truthful portraits, and the sight of them may be a useful warning against being deceived by the names.

Fish Guano.—It will be seen that Messrs. Emery & Co. offer for sale an article under this name, which, from all we can learn in regard to it, is likely to become of great importance. It has been very carefully analysed by Prof. Norton, who deems it of excellent quality—"equal in value to medium qualities of [imported] guano." Mr. Chas. Robinson, President of the New Haven county Horticultural Society, states that he tried it last year, on various plants, and its results were fully equal to Peruvian guano. We think it should have a careful trial on various soils, and should its effects be such as may be expected, it will have a great advantage in cheapness, over imported guano. Should the demand render it an object, it can be produced in very large quantities for future years.

Morgan Horses.—Mr. N. B. Hogg, of Newark, Ohio, has purchased of Mr. Wier, of Walpole, N. H., a mare and a three year colt, both got by the well known "Gifford Morgan." The mare, we understand, is the dam of the fine horse "Morgan Hunter," owned by Messrs. Gilbert & Ackley, of East Hamilton, Madison county, N. Y. We have not seen Mr. Hogg's horses, but have been informed that they show many of the good points of the Morgan stock, and we cannot doubt that they will be highly useful in improving the horses of the section to which they have been taken.

Extraordinary Cow.—The Hereford cow which won the first prize at the last Birmingham show, was slaughtered a few months since, and her weight, as given in an English paper, was as follows: Live weight 2,356 lbs. Dressed weight—four quarters, 1,695—tallow, 198—hide, 85—total, 1,978 lbs. The heart weighed 7 lbs. and the head 32 lbs.

Devon Oxen.—Oxen are less worked in English farming than formerly, but Devons, and in some instances Herefords, are still used to some extent. In a late report of the Agriculture of West-Norfolk, it is stated that Mr. Hudson, of Castleacre, works sixteen Devon oxen, besides several pair of horses. The oxen work in pairs, the same as the horses, "and walk quite as quickly, and in either plow or harrow, will get over as much ground as the horses—each plowman drives his own pair."

The Great London Exhibition.—Our latest accounts from this center of attraction, are of the date of May 3d. The "Crystal Palace" was opened on the first by the Queen in person, in the presence of 30,000 spectators. The arrangements appear to have been made in good order, and the display is represented to be magnificent. The packages which were received from foreign countries up to date of 28th April, amounted to 8,938, and 1,144 from British colonies. "The United States furnished 878 of the former; Belgium 1,039; France 2,913; Austria 631; Prussia 1,059; the remainder of Germany, 658; Italy 215; Holland 225; Portugal 105; Russia 250; Spain 228; Switzerland 152; Egypt 41, and Tunis 202. Only two packages have yet arrived from Turkey, and one from Persia. The delay in the arrival of the steamer from Constantinople is unaccounted for. China sends 231 packages, and Hong Kong 19; India 436; Australia and the neighboring colonies 126; the West Indies 52; the North American colonies 381; Africa and the Cape of Good Hope 45; and Malta 49."

The department of the show belonging to the United States, seems to be highly creditable, and is said to attract much attention—especially in reference to the *utilitarian* character of the articles. Our carriages and agricultural implements are particularly spoken of in terms of praise. Mr. Johnson, the agent from this state, and several agents from other states and associations were at London at the above date, but no communications particularly describing the exhibition have been as yet received from them.

New Edition of Dana's "Muck Manual."—We are glad to learn that a new and enlarged edition of this useful work is soon to be published. The former editions were exhausted, and we have heard many calls for it which could not be answered. It contains many directions in regard to the use of peat or muck as manure, which have been of great value to many farmers. By the advertisement of Mr. Walker it will be seen that he has the work for sale.

Large Produce of Wool.—We are informed that Messrs. E. T. & J. A. Miller, of Hanover, N. H., had in 1850. 193 fleeces of wool from Merino sheep, which, when sold, weighed in the aggregate, 867 lbs., or an average of four pounds seven ounces and a fraction per fleece—and brought the aggregate sum of $379.14—or an average of $1.96 per fleece. Also, that John Cleflin, of Lyme, N. H., has a flock of sheep which gave an average yield the same year, of four pounds ten ounces to the fleece, and sold for an average amount of $1.98 per fleece. We are not informed who was the purchaser of these lots of wool, but it is said "they were sold without the advantage of being sorted at a wool depot."

Vermont Sheep in Virginia.—We are informed that Mr. Albert Chapman, of Middlebury, Vt., lately sold ten Merino ewes and a ram to Mr. Theodore N. Davidson, of Culpepper county, Va. We understand that the ram was bred by Mr. E. Hammond, of Middlebury, and that the ewes were bred by Mr. Chapman. The flocks of both these gentlemen are well known as among the best in Vermont,—the sheep being generally of good constitution, and producing a good weight and quality of wool.

Eggs of Choice Fowls.—We have received from Dr. E. Wight, of Boston, some eggs of his very superior Dorking fowls; also from Mr. A. A. Andrews, of Boston, eggs from his "White Shanghae" fowls, which we regard as among the very *best* of the larger class of fowls that have been exhibited at the Boston poultry shows, or that we have ever seen elsewhere. We spoke of them in our December No. for last year.

Messrs. W. G. & G. A. Young, of Kirkland, Oneida county, have purchased of Mr. Nahum Knight, of Baltimore, Vt., a horse got by "Green Mountain Morgan." He is a muscular, short-jointed horse, apparently of good constitution, strong and hardy. Messrs. Young have certificates in regard to the value of his progeny, from several respectable gentlemen in the neighborhood where the horse has been kept.

Hereford Cattle for Otsego County.—We learn that Mr. J. A. Davis, of Morris, Otsego county, has purchased of Mr. Edward Wells, of Johnstown, a bull and cow of the Hereford breed. They are fine animals, entirely of the stock imported from England by Mr. Sotham, and we are glad they have gone into good hands, in one of our best breeding districts. They will prove a valuable stock.

Deep and Shallow Draining.—Gen. Cushing stated at one of the Boston Agricultural meetings, that when draining was first introduced into Scotland, the drains were made about one and a half to two feet deep, and about 18 feet apart. After 10,000 miles were laid, it was found that they were not sufficient. Then they were made from two and a half to three feet deep, and forty feet apart. This system cost less, and was more efficient. Greater depth with greater distance, was again unfavorable.

Brush Drains.—Where stones are scarce, and tiles not easily obtained, brush drains are an excellent substitute. They are, in fact, the cheapest of all kinds of underdrains, on account of the rapidity with which they may be filled. The brush, being excluded from the air, will last a long time. Judge Buel's were found after 20 years, apparently as good as when made.

Extensive Farming.—Downing says that a large part of the estate of the Duke of Bedford is let out to tenants, but still he retains a large portion under his own superintendence, and pays, himself, more than 400 laborers weekly throughout the year. Above fifty miles of drain have been laid, annually, on his grounds, for several years past.

Southern Prices of Cattle.—Dr. Lee states that ordinary cows sell in Georgia at from $6 to $10 per head, and extraordinary ones bring readily from $50 to $150 each. "We saw a native cow sold at the latter price at the [Georgia] State Fair in 1849, not so good as we have bought in Erie county for $13."

Large Crop of Hay.—Jeremiah Ryan, of Putney, received the premium of the Windsor County (Vt.) Agricultural Society, for the best crop of hay, the amount being *five tons*, including the second crop or after-growth.

Albany Prices Current.

Albany, May 14, 1851.

The markets for produce of almost all descriptions, have opened very active, and in Breadstuffs the quotations show a gradually declining market, influenced altogether by the large receipts from this State and the West. FLOUR, for the common descriptions of State and Western, rules very low, with a prospect of a still further decline. WHEAT has followed Flour, and the anticipations that Genesee from its relative scarcity would maintain its price, have not been realized. CORN continues in large supply, and quotations since the opening of the canal have steadily receded; the receipts in prospect are very large, and it is not easy to perceive how present prices can be maintained, in the absence of a shipping demand, which at present is by no means active, and in no respect equal to the increased receipts over the corresponding period last year. PROVISIONS of all kinds, barrelled and cut, notwithstanding the advancing rates of quotations, continue in good demand; the retail trade here has been very active.

The prospects of the growing crops, in all parts of the Union, with some slight exceptions, are very good.

FLOUR.—The sales of flour during the month have reached 28,000 to 30,000 bbls., principally to the city trade and to Eastern and river buyers. Quotations under the influence of large receipts, have gradually declined, and the market closes heavy, with a downward tendency, at $4a$4.12½ for mixed and straight Michigan and State,—$4.25a$4.37½ for Northern and Southern Ohio and fresh ground State—$4.50a4.62½ for Genesee,—$4.75a$5 for fancy Genesee and Extra Ohio, and $5a$5.25 for extra Genesee. The steamship Cambria with advices from Liverpool to 3d inst. quotes American flour steady at 17s. 6da19s., for Western Canal,—18a20s. for Canadian and 19a20s. for Ohio. These are very low figures, lower than they have been for years.

GRAIN.—The supply of prime Genesee wheat in store at the opening of canal was very limited, and the arrivals since the opening have been very light; the aggregate is 33,000 or 34,000 bushels prime Genesee, ranging from 118a115c; at the lower figure a sale was made yesterday; the ordinary descriptions of Western are unsaleable in this market, and our sales include only 4,800 bushels at 104c. for Michigan, and 103 for a parcel of ordinary Genesee and Mediterranean mixed. Rye has been in demand beyond the supply, and prices are firmly maintained; sales 20,000 bushels, at 72a73c. Oats have been in limited supply, and a good demand has carried the market from 44a45c. at the opening, to 48, at which the market yesterday closed firm; the sales are 118,000 bushels. Corn has been in very active demand for the East, and to fill contracts, and prices at the opening of the canal were quoted at 62a63c. for Yellow round, and 62 for Western mixed, which under the influence of large receipts present and in prospect, and the unfavorable European advices, closed yesterday at 57c. for Yellow mixed and round White, and 55½ for Western mixed, the market showing more steadiness than it had evinced for some days; the agregate sales have been 375,000 bushels. In Barley we have not much to notice; sales 7,000 to 8,000 bushels in lots, at 106a110c.; sales have also been made of the new crop to the extent of 50,000 bushels, on private terms. Malt is in good demand at $1.25 with sales.

FEED.—Owing to the advancing quotations in oats, and a moderate supply, has been well sustained; sales 40,000 bushels at 18a24 for second quality, and 100a106¼ for middlings.

HOPS.—A fair retail demand: sales 80 bales old and new, at 30c.

WOOL.—The stock here has been exhausted for some time; we notice sales 4,000 lbs., at 36½ for No. 1, and 40c. for superfine.

WHISKEY—is in steady demand beyond the daily supply; the sales are 600 to 700 bbls. at 23a24c. for S. P., and 23 for Ohio, closing with a bare market, and nominally 23¼ and 23½c.

SEED.—There has been a fair retail demand at 10½c for large clover, and 9a9½ for medium. Timothy ranged from $2.25a$3.12½.

PROVISIONS.—The sales include 100 bbls. prime beef city packed at $7; 280 tierces Western Hams in pickle at 8½a9c., 16,000 lbs. Western Smoked Shoulders at 7½c., 100 bls. do. in canvass at 7½c., and 25 bbls Lard at 10c. The retail demand has been very good and quotations may be given at $16 for mess Pork, $14 for do. prime, $10.50 for mess Beef and $8 50 for do. prime. Smoked Hams, 10c., do. Shoulders, 8c.; Smoked Beef, 9c.; Lard, 10½c.; Butter, 10a12c. for old State and 14a16c. for new do.; Cheese, 7c.

LOCUST BORER.—A correspondent of the Genesee Farmer says that he destroyed the borer and restored a favorite tree, by thrusting smoking tobacco into the holes made by the insect, by means of a knitting needle. The operation was repeated in successive years.

COMPARATIVE ROTTING OF POTATOES.—According to the experiments of S. W. COLE of the New-England Farmer, the different varieties of the potato rotted the past unfavorable season, in the following proportions:—

Chenango or Mercer, seven-ninths of the crop rotted.
Carter, five-sixths.
Snowball, (resembling Carter,) all.
Early Purple, one-seventeenth.
Hall's Early, one-half.
Early Worcester or Riley, one-third.
Buffalo Pink, two-thirds.
Wait's Long, four-fifths.
Long Red, Merino, or Long John, two-thirds.
Dear, Veto, or Abington Blues, seven-elevenths.
Black, or Black Chenango, one-fifth.

The Early Purple very nearly escaped, probably from its great earliness.

METHOD AND ORDER.—Habits of order and discipline result in the highest advantage to rural cultivation, even when brought from far different pursuits. Pope said of Lord Peterborough,

> Even he whose lightnings pierced the Iberian lines,
> Now forms my quincunx, and now ranks my vines;

and Washington when called from Mount Vernon to the presidency, left full directions to his manager in writing, and required of him a weekly report, giving a minute account of all the operations of the farm, the appearance of crops, condition of animals, &c. If habits of discipline as applied to the art of destruction, may be thus turned about to good account, how much better would it be to cultivate discipline as directly applied to the great art of peace, the cultivation of the soil.

CRANBERRIES ON UPLAND.—A writer in the *Massachusetts Plowman* thinks the cultivation of this fruit on upland or dryland, cannot be carried on with advantage. He says—"It is evidently a fruit that delights in a wet location, and it is to be doubted if it has that nature to live, flourish, and bear equally well in a dry location. Even in the last *wet* season, I found this fruit in a more flourishing and perfect condition in the lower parts of the meadow, than on the higher.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.
June 1—4t. G. H. BARR.

FARM FOR SALE.

THE subscriber offers for sale 350 acres of land, situated four miles north of Chimney Point Steamboat Landing, on the east shore of Lake Champlain, and ten miles from the Vergennes Railroad depot. The farm is well watered, and has a sufficient quantity of Pine timber to keep it in fence for many years, and a surplus of fire wood. The house is comfortable; the barns, six in number, some new and all in good repair. There are two orchards, which produce grafted fruit of the best varieties. The farm will recommend itself to any one who will take the trouble to inspect it. Also, for sale one thousand good Merino sheep. JONAS N. SMITH.
Chimney Point, Vt., June 1, 1851—2t.

BLACK HAWK.

FOR SALE at Ticonderoga, Essex county, New-York, a desirable Stallion Colt, sired by the justly celebrated original Black Hawk, now owned by Messrs. Hill, Bridport, Vt. Color, dark brown, black legs, mane and tail—will be three years old in June, is 15¼ hands high—weighs about 1000 lbs.—strongly made and well proportioned—kind to handle, broke to harness, and shows good action. Those wishing to purchase can examine said colt at the stable of the subscriber. WM. E. CALKINS, Ticonderoga, May 26—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.
Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.
Lawn and other grasses.
Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.
Guano, Bone Dust, Poudrette, and other fertilizers
Prompt attention given to all orders by letter or otherwise
March 1—tf.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season at the stable of S. A. Gilbert, East Hamilton. Terms, $10.00 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse, thus possessing more of the blood of the Gifford Morgan than any other horse now living. For figure and description, see Cultivator for 1849, p. 216.

MORGAN CHIEF will be four years old on the 18th of June next. He is a superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. He will stand at the stable of H. R. Ackley. Terms, $10.00 to insure. See Cultivator for 1849, p. 67.

June 1—2t. ACKLEY & GILBERT.

Morgan Horse Young Gifford.

THIS splendid colt will be kept at the stable of the subscriber the coming season, for a few mares only. Young Gifford will be three years old in June next; in color chestnut; was bred in Walpole, N. H., by F. A. Wier; got by Gifford Morgan, dam by Sherman Morgan, thus possessing the blood of the best Morgan Stallions on record. In color, form and action, he closely resembles his illustrious sire. Terms, $10.00 to insure. Good pasturage furnished; accident and escape at the risk of the owner. S. A. GILBERT

East Hamilton, Madison Co., N. Y., June 1—2t.

SIR HENRY ECLIPSE

WILL stand in the city of Albany, at the stable of Wm. W. Woolford, 157 Washington-street, as follows: Five dollars single service, ten dollars the season—insured by agreement. Season to commence the first of May and end the 15th of July. Admirers of good horses are invited to examine for themselves.

PEDIGREE.—His grandsire was the noted horse Sir Henry, imported; his sire the McKinney Henry; his dam from Morgan descent; and in point of beauty and endurance, conld not be excelled in the land. Sir Henry stands full seventeen hands, is a dark chestnut, and weighs about 1,400 lbs., and is a perfect model of a horse. He challenges the land for comparison of stock, and is the horse that was awarded the first premium at Buffalo when three years old, and is coming six years old this May. JOHN D. SPINNER.

June 1—2t

EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Railroad Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,..................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.,............	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use,..............		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,................	$75
Two Horse Power,..................	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

HAMILTONIAN.

THIS celebrated horse will stand at the stable of G. A. Austin, in Orwell, Addison Co. Vt. Season commencing 1st of May, and ending in September.

This beautiful horse is 16 hands high; his color a dark bay; age 12 years in June 1851. He is the oldest and best blooded Hamiltonian now living, and has sired more roadsters and fast trotters than any other horse in the State. The fastest trotting Mare in Vermont was sired by him. She can go her mile in 2.40. The fastest trotting Stallion in Vermont is also a Hamiltonian. In addition to his blood qualities of speed and endurance, his unequalled success in producing roadsters consists in his great strength, and the peculiar formation of his limbs, his large forehead and deep quarters in which he excells. This horse took the first premium at the Rutland County Fair, held in Castleton in September, 1846. His stock is unsurpassed, and is in great demand. Several of his colts have been sold for $300 to $750 each. Some of his stock can be seen on the premises.

I have in my possession a great variety of letters from different persons relative to this horse, but as they are all of the same tenor the following will serve as a sample of the whole. It is from Fitch Clark, a gentleman who has probably taken more horses to market than any other man of his age in the State:

PAWLET, March 31, 1851.

Dear Sir—I can say more for the HAMILTONIAN horses than for any other of my acquaintance. I have had a great number of them, and they meet with a more ready sale than any other breed I have ever dealt in. I think the horse you have is the best blooded Hamiltonian now living. I have had a number of his colts. They were all fast. The bay mare I purchased of Joshua Hulett, (which you know was sired by him,) went in Albany in 2.46.

Respectfully yours, FITCH CLARK

Besides this, I have any number of letters from the best judges, which can be seen by those who are not acquainted with the stock of the Hamiltonian. I have also several colts of his on the premises, which will speak for themselves. They are not only roadsters, but sufficiently large for the plow &c.

PEDIGREE.

Hamiltonian is a grandson of the renowned Hamiltonian, owned by the late Isaac Bishop of Granville, Washington County, N. Y. Mr. Bishop purchased him at 3 years old for $1000, and he won for his owner, the same fall, in a match for $1000. Hamiltonian was sired by old Messenger, dam Miller's Maid. He was own brother to Membrino, that sired Betsey Baker, and the fastest trotting nags of the day. Terms six dollars the season.

Orwell, Vermont, June 1, 1851—1t.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel Wool on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for Cash.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

Important to Wool Growers.

I PROPOSE to sell twenty-five pure Pauler Merino Ewes, with Lamb, by a French Merino Buck, purchased of A. L. Bingham of Vt.; also twenty-five yearling Ewes, from my Pauler Ewes and French Buck; also a few choice Bucks. My flock originated from *R. V. R. Horton's flock, Rutland county, Vt. I purchased eleven Ewes and one Buck in the winter of forty-five; I have also had Bucks of Avery of Saratoga, at different times. I will sell at prices within the reach of common Farmers

Otisco, May 1—2t. N. H. NOYES.

P. S.—Any one wishing to get some good sheep could satisfy themselves by calling at shearing time. Any information wanted address N. H. Noyes, Otisco, Onondaga county.

* A description of Mr. H.'s sheep can be found in the vol. of the Cultivator published in forty-five and six.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Anti-Pyric Paint, Fire, Weather, and Water Proof.

Manufactured by THE NEW-YORK ANTI-PYRIC PAINT COMPANY, for the roofs of Dwellings, Warehouses, Bridges, Fences, and all Articles that require Protection from Fire, Weather, or Water.

TO THE PUBLIC.—The Anti-Pyric Paint Company are prepared to fill orders for their incomparable Anti-Pyric Paint. They wish it to be distinctly understood, that their Paint is distinct from any of the various *ground rocks, slates, clay or mud*, which are puffed and sold in the market as fire proof paint. The Paint offered by this Company is manufactured from proper materials only, scientifically prepared and combined and as such it is offered to the public, with the full assurance that in its protective properties against Fire and the Elements, it is superior to any article ever used in the form of Paint; and that, after all the earths and native Paints, (so called) have had their day and failed, the Anti-Pyric Paint alone will maintain its reputation as a perfect protection against the weather, falling sparks or cinders, and a not too immoderate heat from the direct action of Fire. It has no deleterious articles in it, will not crack, peel off, or wash away, but hardens by time and becomes permanent and imperishable by age! Thousands have used it for the last three years without a single failure.

Constantly on hand and for sale at the Depot of the Company, by GEO. G. SHEPPARD, their sole agent, 187 Water street, New-York, where may be had Certificates of its qualities, and full directions for using it. May 1—2t.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

Louis Agassiz, LLD., Professor of Geology and Zoology.

Jeffreys Wyman, M. D., Professor of Comparative Anatomy and Physiology.

Henry L. Eustis, A. M., Professor of Engineering.

Eben Norton Horsford, A. M., Professor of Chemistry.

Instruction is also given by Professor Pierce in Mathematics, Prof. Lovering in Physics, and the Messrs. Bond at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "The Lodi Manufacturing Company, New-York," *post-paid*. April 1, 1851—3t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

John Mayher & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium whereve exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co

March 1—tf 197 Water Street, New-York

GREAT SALE OF SUPERIOR THOROUGH *Bred Short-horn Cattle.*

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Metéor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15½ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messengor breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention.

CALVIN MORSE,
I. T. GRANT.

April 1, 1851—3t.

The Mambrino Horse Washington.

THIS Celebrated Horse will stand the present season at North Ferrisburgh, Addison County, Vt. Washington was bred by John Thorn of Washington, Dutchess County, N. Y.—is a beautiful dark bay, over 16 hands, well proportioned, having great action, and possessing a great share of bone and sinew. Washington was got by Mambrino Paymaster, and Mambrino Paymaster by Mambrino, and Mambrino Paymaster's Dam by the imported Horse Messenger. Washington's dam by Mount Holley, grand-dam by True Britton, Mount Holley by the imported Horse Messenger, and dam by Bagazette. It will be readily perceived that Washington combines the best blood ever imported to this continent, and is adjudged to possess more good points and symmetry of proportion, than any other horse of his age, having taken the First Premium at the Dutchess County Agricultural Fair, in the fall of 1847, and the First Premium at the Addison County Fair last fall, on a field of eleven stallions, most of which were the stock of the original Black Hawk. All who are desirous of raising high-priced horses, are requested to call and examine the Horse and his stock.

THOMAS R. NOONAN,
ANDREW HOLMES,
Proprietors.

May 1—2t*

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of FULL BRED SHORT-HORNS AND IMPROVED DAIRY STOCK, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the FIRST PRIZE as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

POSTSCRIPT.—I decline selling any Stock by private sale, so as to offer the public all the animals I have to part with, without having any previously selected from the Herd—and all animals offered will be positively sold.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan STALLION, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Mares will be pastured at a reasonable price—accidents and escapes at the risk of the owners.

Bridport, Vt., March 1—4t. D. & D. E. HILL, Agents.

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ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—St.

Emery's Horse-powers and Threshers.

EMERY & CO.'S Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York. G. H. BARR.
June 1—2t.

MANURES.

PERUVIAN GUANO at 2¼ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2 25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1¼ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cent per lb; packages included at the above prices. For sale at the State Agricultural Warehouse
June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

FISH FERTILIZER.

THE fertilizing qualities of *Fish*, when applied as a manure, are well known to many farmers as one of the most powerful manures—being thought nearly, if not *quite* equal, to the best *Peruvian Guano*.

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, JULY, 1851. VOL. VIII.—No. 7.

History of the Short-Horns.

CATTLE, by W. YOUATT and W. C. L. MARTIN, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a complete guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. STEVENS. New-York: C. M. SAXTON.

THE increasing attention which is being given to improved breeds of cattle, and other live stock, naturally creates a demand for books which contain information on this subject. Such books have heretofore been chiefly derived from English authors. The most elaborate writings on the different kinds of domestic animals, are those of the late Mr. YOUATT, drawn up under the direction of the Society for the diffusion of useful knowledge. His works on The Horse, Cattle, Sheep, and Swine, are considered standards. That on cattle, published in 1835, both as regards the history and description of breeds and the treatment of diseases, may be deemed without a rival.

The work of MARTIN, published in 1848, is one of character and respectability, and in reference to the natural history of the ox, is superior to any which has appeared. The author has been a prominent officer of the London Zoological Society.

But it strikes us that the *plan* of the book whose title is at the head of this article, is liable to a serious objection. The inference from the title page is, that it is a combination of portions of the works of Youatt and Martin, prepared by Mr. STEVENS, who has, also, made alterations and additions, under the plea (as stated in the preface) of "advancing the matter to the present state of knowledge on the subject." The reader, however, is left with no guide or key by which the different authors may be recognised. The point seems to have been entirely overlooked, that the public might regard it as of some importance to know whether statements to which their belief is invited, are made on the authority of Mr. Youatt, Mr. Martin, or Mr. Stevens.

But there is a portion of the work which Mr. Stevens acknowledges as his own. This is given under the head of "Corrections of Mr. Berry, and further Historical Notices of the Short-horns." The chief points to which these corrections refer, are

"1. The *asserted* importation of cattle from Holland about one hundred years since, and the union of their blood with the then existing Short-horns of the valley of Tees. 2. The assertion that about one hundred years since, the breeders of Short-horns, in their 'pretended improvement, 'proceeded on a judicious system of crossing with other breeds.' 3. The claimed exclusive improvement effected in the Short-horns by C. Colling. 4. The assertion that Mr. C. Colling adopted as the rule of his breeding, the reduction of the size of the Short-horns. 5. The account given of Hubback, in which it is impliedly said he was not a pure Short-horn. 6. The whole account of the Galloway cross, and the value of that cross in consequence of the Galloway blood."

These comprise the principal objections which Mr. Stevens makes to Mr. Berry's history of the Short-horns. We will notice them briefly in their order. 1. Mr. Stevens denies the importation of cattle into England from Holland "about one hundred years since," but says—"There can be no doubt that *originally* the Short-horns came from the Continent." In this Mr. Stevens concedes an important point. It has been held by some persons that these cattle were indigenous to Britain. Thus Mr. A. B. Allen, in his *History and Traditions of Short-horn Cattle*, says,

> "We traversed Durham and Yorkshire with unspeakable interest, for these counties are emphatically the home of the Short-horns. Here they *originated*, here they have flourished from time almost immemorial, and here they received those improvements which have carried them to such a pitch of excellence as to insure them a precedence throughout the most fertile regions of the world."—*Am. Agriculturist*, vol. 1, p. 161.

It is proper to say, that the ground taken by Youatt, Martin, and most other authorities, is, that this tribe of cattle was introduced into Britain from the north-western portion of the European continent.

The chief argument adduced by Mr. Stevens to prove that there was no importation of cattle from the continent at the period above alluded to, is, that there was, as he asserts, a statute of Parliament prohibiting their introduction. This act, it is stated, was passed in the year 1666, and continued unrepealed until 1841, "and was *always enforced*, except from 1801 to 1814." Of the existence and operation of such a statute, we have no other information than that given by Mr. Stevens, and at present can only say, that an actual prohibition of the nature here claimed, is irreconcilable with the statements of many writers of the highest respectability. Is it reasonable to believe that the enforcement of such a law would have escaped the knowledge and mention of men of such intelligence as Youatt, Berry, Martin, Culley, Bailey and Low? Yet so far from this, most of these writers and others, positively state, and all of them admit, that cattle were imported during the period referred to, and that some of those importations contributed to the imrovement of the Short-horns.

We cannot here devote the space necessary to show the views of these writers on this point, by extracts. The following, from Professor Low's *History and Illustrations of British Animals,* may be taken as the substance of what has been said by others. Speaking of the Short-horns, Prof. L. says:—

> It is not unreasonable to believe that during the period of Saxon colonization, they may have been brought to the country by the Jutes and Angles who settled in this part of England. * * * * But at a long subsequent period, near our own times, it appears that cattle were frequently brought from the opposite continent. They were chiefly imported from Holland, the cows of which country were the most celebrated of all others in the north of Europe for the abundance of their milk and the uses of the dairy. The earliest importations seem to have been made to the country of the Humber, where the port of Hull maintained a constant and extended intercourse with Hamburgh and the United Provinces. The Dutch breed was especially established in the district of Holderness, on the north side of the estuary of the Humber, whence it extended northwards through the plains of Yorkshire; and the cattle of Holderness still retain the distinct traces of their Dutch original, and were long regarded as the finest dairy cows of England. Further to the north, in the fertile district of the Tees, importations likewise took place of the cattle of the opposite countries, sometimes from Holland and sometimes by the way of Hamburgh, from Holstein, or other countries of the Elbe. * * * Of the precise extent of these early importations we are imperfectly informed; but that they exercised a great influence on the native stock, appears from the circumstance that the breed formed by the mixture, became familiarly known as the Dutch or Holstein breed, under which names it extended northward through Northumberland, and became naturalised in the south of Scotland. It was also known as the Teeswater, or simply as the Short-horned breed."

2. The reply to Mr. Stevens' second objection will be comprised in replies to the others.

3. The third objection to Mr. Berry's history is that—"It is not true that Charles Colling exclusively improved the Short-horns, or bred better ones than he originally obtained to breed from."

Where did Mr. Berry ever assert that Charles Colling was the *exclusive* improver of the Short-horns? We have never seen such an assertion. Mr. Stevens says—"Mr. Berry, in both his histories, gives no one credit for improvement in the Short-horns but Charles Colling;" and in this Mr. S. thinks great injustice has been done to other breeders, especially to Mr. Robert Colling, who, it is claimed, "was quite as good a breeder as his brother Charles."*

Now the truth is, the charge involved in this statement, is entirely unfounded. Mr. Berry did not claim Charles Colling as the exclusive improver of the Short-horns, but on the contrary, he *does* give others, and especially Robert Colling, high "credit for improvement." Mr. Berry says—

> "It would answer no useful purpose, and would certainly be an objectionable course, to bring under particular notice any one or more of the highly valuable stocks of the improved Short-horns of the present day. To enumerate all would be impossible; and the writer of this account would most studiously avoid any partial or invidious comparison. The same objection does not, however, exist as to a remote period; and it is but justice to state that Mr. Robert Colling, brother of Mr. Charles, (who certainly was the leader and surpassed all others in the improvement of the Short-horns,) Mr. Charge, of Mewton, near Darlington, Mr. Mason of Chilton, in the county of Durham, were only second to Mr. Charles Colling in this interesting and useful pursuit." [*Youatt's work on Cattle*, pp. 233, 234.]

4. Mr. Berry thinks Mr. Colling, in breeding, proceeded on the plan of reducing the size of the Short-horns, by that means improving their form, and that this was effected in the first instance through the medium of the bull Hubback. Mr. Stevens thinks he had no such design and produced no such effect. He cites the great weight of some extraordinary fat cattle as proof that Mr. Colling "increased" the size of the Short-horns. Now what did Mr. Berry mean by a reduction of size? It will not, it is presumed, be denied that the improved Short-horns are smaller in bone, in mere bulk of frame, than the old or common stock of that tribe; and this is what we understand Mr. Berry to say was effected by Mr. Colling,—not that the improved stock was incapable of *fattening* to as great weights as the common. But he says expressly, that it was their extraordinary accumulation of flesh and fat, that produced their remarkable weight. An intelligent contemporary of Mr. Colling's illustrates this. He says that by crossing the Teeswater Short-horns with Hubback, "the essentials wanted were acquired, though somewhat *reduced in size;* but as they had more flesh, less bone, and much neatness, *they lost none of their weight when fatted.*" [John Rooke, in *London Farmers' Journal*, June 2, 1821—copied in *Am. Farmer*, vol. 4, p. 166.]

Bailey, in his *Survey of Durham*, speaks of several of the most remarkable fat animals of the improved variety. He says a two-year-old steer of Robt. Colling's, was supposed to weigh (four quarters) 63 stones (882 lbs.,) and another of the same age belonging to Mr. Nesham, was estimated by the butchers to weigh (four quarters) 75 stones (1050 lbs.,) and adds, "*Neither of these animals were of large size*, and would not have weighed above 40 stones (560 lbs.) had they been no fatter than animals usually killed for the markets." [pp. 233, 234.]

4. Mr. Stevens assumes that Hubback was a "pure Short-horn." Mr. Berry says there had been much controversy "touching the purity of his blood,' but re-

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* Mr. Stevens, in endeavoring to show that Robert Colling was equal as a breeder to his brother Charles, cites the fact that the latter did not *breed* Hubback; and he cites Mr. Hutchinson to prove that "Mr. Charles Colling himself, never thought so highly of this bull as is now confidently held out." But in the same letter of Mr. Hutchinson's to which Mr. Stevens refers,—(originally published in the *Farmers' Journal*, and copied into the *Am. Farmer*, vol. iv. p. 228,)—it is stated that Mr. Robert Colling,—who with Mr. Waistell, was joint owner of Hubback before he passed into the hands of Mr. C. C.,—had "declared his opinion" that Hubback *was not a good bull.* Mr. Stevens omits this part of Mr. Hutchinson's letter; yet he admits that—"By common consent, every historian of Short-horns recognizes the wonderful merit of Hubback," and he adds the expression of Maj. Rudd, that he "was the *main root* of the improved Short-horns." But according to Mr. Waistell, whom Mr. Stevens quotes, Mr. Ch's. Colling *did* think "highly" of Hubback, for as soon as he came into his hands, he would not let him serve Mr. W.'s cows for less than "*five guineas*" *each.* (p. 124.) Now which showed the most judgment as a breeder in this important case, Robert or Charles Colling? It is true that Mr. Hunter, and not Mr. Colling, bred Hubback; but does that entitle Mr. Hunter to any merit as a breeder? Although Hubback, as Mr. Stevens admits, was a "wonderful animal," neither Mr. Hunter, nor any other person but Charles Colling, perceived his excellence; for it appears that after passing through various hands, he was purchased at six years old by Mr. Colling, for the low price of *eight* guineas—two guineas *less* than Robert Colling gave for him!

gards the question as of "little importance" at the time he wrote. Mr. Stevens thinks it is thus "impliedly said that he was not a pure Short-horn." He therefore proceeds to bring forward what he deems "full and conclusive proof of the purity of Hubback's blood." His first reference is to the pedigree of that animal in the Herd Book; but admitting the correctness of the pedigree as there given, it does not prove the point assumed. The pedigree shows that Hubback was descended in part from the stocks of Sir James Penniman and Sir Wm. St. Quintin, but it is not proved that these were pure Short-horns.

On the point of there having been Kyloe (or West-Highland) blood in Hubback, to which the "controversy" alluded to by Mr. Berry chiefly related, Mr. Stevens cites an "account" which Mr. Coates, the author of the Herd-Book, says was given to him by Mr. John Hunter, son of the breeder of the animal in question. Mr. Hunter says he "remembers" the cow which his father bred, that was the dam of Hubback, and that he does not "believe" she had any Kyloe blood in her. Now it is obvious that the value of this "belief" depends on Mr. Hunter's opportunities for obtaining correct information. Hubback was calved in 1777, and the paper signed by Mr. Hunter, is dated July 6, 1822—forty-five years after Hubback was produced. Of course, the correctness of Mr. H.'s impressions, depends much on his age at the time the animals were bred. How old was he when his father owned the dam of Hubback, which he says he remembers?

Mr. Stevens says (page 121,) "All the authorities for the impurity of Hubback's blood shall be quoted." He proceeds to quote from Major Rudd and others, but leaves out the following expression in one of Major R.'s letters, of which he takes a part: "I am in possession of evidence which establishes the fact that the *dam* of Hubback owed her propensity to fatten to an admixture of Kyloe blood." [Letter in *Farmers' Journal*, dated June 28, 1821—copied in *American Farmer*, vol. 4, p. 174.]

But even Mr. Hutchinson, who is much relied on by Mr. Stevens to make out his case, did not deny, but rather admitted at the time of the controversy, that Hubback had Kyloe blood. Mr. H.'s letter of which Mr. Stevens has quoted a part (page 125,) in which the former aims to show that his own stock is related to Hubbard, commences thus: "The bull Hubback being now pronounced the *grand cause of improvement*, instead *of the main root* of the Ketton and Barmtons, so celebrated above all other Short-horns,—it behoves every breeder to prove his own stock related to this wonderful animal, if he can." He then shows that Hubback was used in Mr. Fawcett's and Mr. Waistell's herds before Mr. Charles Colling bought him, and towards the close of his letter, argues that there were other strains of valuable blood in the Short-horns, besides that from Hubback, saying that it was "most wonderful" that "no virtue is allowed to be found in any blood, but in this *drop of the Kyloe in the veins of Hubback!*" [Letter under date of Oct. 10, 1821, in *Farmers' Journal*—copied into *Am. Farmer*, vol. 4, p. 228.]

Another admission of Mr. Hutchinson's, of a similar character to the above, is referred to in a letter of Mr. Rooke, given from the *Farmers' Journal*, in 4th vol. of the *Am. Farmer*, p. 166.

After a full examination of what Mr. Stevens says on this point, we think the conclusion will be that Hubback's pedigree is as much a subject of doubt as when Mr. Berry left it, 1835.

6. The last point is the Galloway cross. This stock, called the *alloy*, Mr. Stevens contends "had no value except *as conferred* by the Short-horn blood in them, and *in spite* of the Galloway strain."

We will occupy no more space with this part of the subject than is necessary to show the view taken of it by those who have had the best opportunities of knowing the facts. We will omit what Mr. Berry says in praise of the *alloy*, simply referring to one or two witnesses to corroborate his statements.

Mr. Stevens, as we have said before, makes frequent reference to Mr. John Hutchinson; it is evident, therefore, that he considers him *authority*, and he could not consistently appeal from authority which Mr. H. would recommend. Now, in relation to a point connected with the pedigree of the bull Sir Leoline, bred by Mr. H., he referred to Major Rudd, and sent a letter on the subject that he received from Major R., to the *Farmers' Journal*, which he prefaced by saying—"it is from a gentleman whose intimacy with the Messrs. Colling, and whose experience of their stock entitles him to possess the *best information and most accurate experimental knowledge of their comparative merits.*'

In this letter Major. Rudd speaks of the cow Lady, whose progeny some writer had attempted to depreciate in value on account of their Galloway blood, and says—"I have yet to learn that this blood has been of any injury to Lady or her descendants; for I can truly declare, that after having had some experience during *ten years* with different branches of the Ketton stock, *I give the preference to the stock descended from Lady,*—and I know also, that they are held in the highest estimation by Mr. Charles Colling." [This letter is dated May 31, 1821, and is copied in the *Am. Farmer*, vol. iv., p. 149.]

It should be noticed that Major Rudd was for many years one of the leading breeders of Short-horns. At Charles Colling's sale in 1810, he purchased the highest priced animals in the herd, with the exception of Comet; viz: Lily at 410 guineas, Countess at 400, Petrarch at 365, and Peeress at 170 guineas. Countess was out of Lady, and of course had the *alloy*. It appears Major Rudd always adhered to the opinion above expressed, in regard to the superiority of that stock. In 1824, after the stock had been in his possession *fourteen years*, writing to John Hare Powell of Philadelphia, he says—"I have long enjoyed the friendship and intimacy of Mr. Charles Colling. * * * * Residing at no great distance from him, I was in the constant habit of witnessing his experiments, and when his celebrated stock was sold, in the year 1810, I became the principal purchaser." In a subsequent letter of the same year, written to Mr. Powell he says—"You know that I purchased Mr. Charles Colling's best cows. * * * * Our best breeds of horses for the carriage, the road, the chase, &c.—our cattle, sheep, pigs and dogs, have all derived their improvement from *judicious* crossing. * * * You know that I have had long *experience* on these subjects, and have been intimately acquainted with our great improvers of cattle, sheep, and horses."[*]

It may be well to note that Mr. Stevens says he derived the account of the Galloway cross on which he bases many of his conclusions, from Mr. Thomas Bates, and much of his information in regard to Hubback, appears to have been received from the same individual. But even Mr. Bates does not seem to have been *practically* hostile to crossing. It is well known that he made many experiments in crossing the Short-horns with the West-Highlanders or Kyloes. [Youatt on Cattle, pp. 247–8.]

The agent of the largest stock-importing company ever formed in the U. S., stated to the writer of this article that Mr. Bates strongly advised him to bring a bull of this cross to America; and even Mr. Stevens has more than once stated that one of the most noted bulls ever sent to this country by Mr. Bates, possesses a strain of Highland blood. It is true, undoubtedly, that Mr. Bates, as well as Mr. Colling and others, had a definite object in view in making their experiments in crossing, and the result appears to have been, to a certain extent, in accordance with their designs.

This is a brief notice of Mr. Stevens' principal objections to Mr. Berry's history. It will doubtless strike many readers as singular that he should have been made the medium through which so much new light on this subject should be given to the world. The question very forcibly presents itself—why were not these "corrections" made at an earlier day? In a case of so much consequence, involving not only important historical facts, but also the veracity and moral honesty of individuals, why was the issue deferred till those individuals and all the important witnesses, were beyond the reach of a summons to any earthly tribunal? Does such a course accord with the principles of acknowledged justice? If, as is charged, Mr. Berry was actuated by base motives in writing the history of the Short-horns—if he perverted facts and stated falsehoods—why was he not called to account at the time?[†] All the parties most deeply interested were then living, and able to speak for themselves, and in every view of the case were much more capable of arriving at truth, than an individual belonging to another country could be, after the lapse of many years, when the chief actors have passed away. Under these circumstances, the dictatorial manner which Mr. Stevens has assumed, and the contemptuousness with which he has treated previous history, evinces a degree of arrogance seldom met with, and the inquiry presents itself—By what right does he presume to speak in such oracular terms on this subject?

The manner in which Mr. Stevens supports his own views by quotations, is deserving special notice. He makes frequent reference to authors, without telling us where the language which he attributes to them can be found. For instance, on page 114, he says—"The late Mr. Thomas Bates, of Kirkleavington, Eng., was informed by Mr. Christopher Hill, collector of the port of Sunderland," that examinations had been made in reference to the importation of cattle from Holland. Again on page 119, he refers to a letter of Mr. Bates "relating to his Duchess tribe of cattle," and again on page 120, he refers to a letter from Col. Trotter to Mr. Bates, and on page 124, he refers to a letter of Mr. Alexander Hall to Mr. Bates, and on page 125, to a "certificate" given by Mr. Hall to Mr. Bates. On page 128, he says the "account of the Galloway cross was derived from Mr. Bates."

It should be remembered that Mr. Bates died before Mr. Stevens' book was published, and it is desirable to know *where* the important information communicated to Mr. S. was first recorded; or if it was not recorded, whether it was *all* received orally from Mr. Bates.

On page 118, a description of the Short-horns of Messrs. C. and R. Colling is given, purporting to come from Mr. John Hutchinson; and on page 119 another reference is made to Mr. H., and on page 123 a quotation is given, said to be from a letter from Mr. Foss to Mr. Hutchinson, and on page 125 a quotation purporting to be from Mr. Hutchinson is given, in reference to "a dissension" which it is said had "arisen amongst the Ketton and Barmpton breeders." But in neither case has Mr. Stevens given the least hint as to where the language given was *originally* made public. The same may be said in reference to quotations attributed to Mr. Waistell, on pages 120, 123, 124.

There are other parts of Mr. Stevens' "corrections and further history" which it might be well to notice, did the space to be allowed in a single article permit; but we shall be obliged to conclude by a notice of only one or two more points.

Some readers will recollect that Mr. Stevens gave what he called a "history" of the Short-horns in the Transactions of the N. Y. State Ag. Society for 1849. The main point of *this* "history" appeared to be to show that the most esteemed families of that tribe of cattle were taken to England from Normandy by followers of William the Conquerer. He commences by saying:

> "The ancient family of the Aislabies which came into England with William the Conqueror, established themselves prior to 1300, at Aislabe, on the river Tees, in the county of Durham, and the manor, their estate, was called after the family. As early as 1600 the family was known to possess a most extraordinary tribe of cattle."

The inference from this, if anything is to be inferred, is that the best Short-horns are descended from Norman progenitors. Nothing of the above, however, appears in his "Corrections and History" in the book under consideration. Why omit so important a matter when the whole history of the case is to be set right?

Mr. Stevens closes his "corrections and history" by a notice of Mr. Stephenson's stock, the only specimens of which in America, are in the hands of two individuals. He tells us that Mr. Bates, "through Mr. Stephenson's bull Belvedere, *greatly improved* his Short-horns. This is quite different from what Mr. Stevens has elsewhere told us. In the *American Agriculturist*, vol. 5, p. 51, he said—"When Belvedere was brought into the herd, [Mr. Bates' herd,] the only change he made in a marked manner to the eye, was that some of his get were roan. *In essentials the herd remained the same.*"

How is it possible that the herd could have been "*greatly improved*" while "*in essentials it remained the same?*"

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[*] These letters are published in the Memoirs of the Pennsylvania Agricultural Society for the year 1824.

[†] Mr. Stevens says—"It is said that in this second history, his [Mr. Berry's] object was to serve himself, as in the first he had served Mr. Whittaker," and adds that "no one would have a right to complain, had *truth been observed*," &c.

Mixing Plaster and Manure.

It has been recommended to mix plaster with animal or putrescent manures, for the purpose of preventing the waste of fertilizing substances. The theory is, that the sulphuric acid of the plaster unites with the ammonia of the manure, forming sulphate of ammonia—that the ammonia thus combined or fixed, is preserved from loss, and when applied to the soil, being soluble, is taken up as food to crops.

This mode of using plaster, according to the testimony of those who have adopted it, has been decidedly beneficial in many cases. Of late, however, we have heard of some cases where the use of plaster appeared to produce a very different effect from that above described. A writer in the *Richmond Whig*, with the signature of "T. S. P." (supposed to be Thos. S. Pleasants, Esq., of Petersburgh, Va.,) states that he has recently taken some pains to "investigate the matter," and thinks he has obtained "a number of important facts." His investigations related chiefly to mixing plaster with guano. He says—

> "The result was, that in nearly every case the action of guano was impaired by the addition of plaster, very much in proportion to the quantity of plaster employed. When mixed together in anything like equal proportions, the effect of the guano was entirely destroyed. In one or two instances, when plaster had been liberally used with stable manure, the effect was equally injurious."

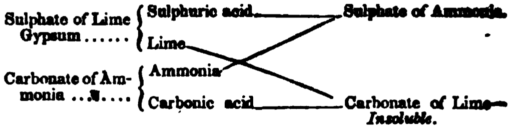
Now if these results have been produced—results so different from those generally attributed to the use of plaster—it becomes important to understand the causes which have produced them. And to illustrate the subject, it will be interesting and useful to refer to some experiments reported by Mr. Pusey,* in the *Journal of the Royal Ag. Soc.* for 1850. The following relates to some of his trials with gypsum:

> "Ammonia was escaping largely from the litter of a farm-yard, as could be perceived by the common test of holding near the surface, paper dipped in spirits of salt, which turns the invisible fugitive into a white opaque steam of sal-ammonia. A whole bushel of gypsum was strewed over a few square feet of the yard. The test showed that the escape of ammonia was uncured."

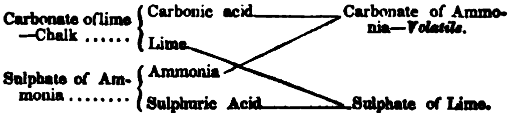
Mr. Pusey states also that he had used plaster in his stables, but they were not "sweetened." He thinks Boussingault has thrown light on this subject.

> "He says that gypsum in solution, as in a laboratory experiment, does act as desired, but that in a state of *moist powder*, the gypsum is indifferent towards ammonia; nay more, that in that state the law of affinity is reversed, and that carbonate of lime, chalk, decomposes sulphate of ammonia, actually *unfixes* it. To explain this contradiction he quotes Berthollet and the following singular law. If two saline solutions, containing between them an insoluble salt, be mixed, that insoluble salt will be formed: but if two salts, containing between them a volatile salt, be mixed in a moist pulverulent state, the volatile salt will be produced. Thus sulphate of lime and carbonate of ammonia in *solution*, produce carbonate of lime insoluble, leaving sulphate of ammonia, which is soluble though not volatile. But carbonate of lime mixed with sulphate of ammonia, in a state of *moist powder*, acting by an opposite interchange, produce carbonate of ammonia, a volatile salt, and sulphate of lime. The following diagrams will show at a glance the contrary changes.

Solutions mixed.


Sulphate of Lime Gypsum......
Sulphuric acid
Lime
Carbonate of Ammonia ......
Ammonia
Carbonic acid
Sulphate of Ammonia.
Carbonate of Lime—*Insoluble.*

Moistened Powders mixed.


Carbonate of lime —Chalk ......
Carbonic acid
Lime
Sulphate of Ammonia........
Ammonia
Sulphuric Acid
Carbonate of Ammonia—*Volatile.*
Sulphate of Lime.

Mr. Pusey concludes, therefore, that gypsum must be in a state of solution to fix ammonia, and to bring it into solution, requires, he states, 500 times its own weight of water. It is stated by chemists, however, that gypsum may be dissolved in a much less amount of water, when mixed with chloride of ammonia; and the solubility of gypsum when mixed with manure, is probably increased by the ammonia which the manures contain. If this reasoning is correct, it seems to explain the causes of failure above alluded to, in regard to the mixture of gypsum with guano. From the want of sufficient moisture, the carbon of the guano united with the lime of the gypsum, and the sulphuric acid not uniting with the ammonia of the guano, the ammonia became volatile and escaped.

The ammonia in guano has a great tendency to become volatile, when the guano is in a dry state, and hence, when it has been sown on the surface of the soil during very dry weather, there have been frequent complaints of its inefficiency. The escape of ammonia from stable or yard manures also takes place chiefly when the manure is dry. It is greatest when the manure heats or burns—the carbon, with which the ammonia had been united being consumed and the ammonia set free. This loss might be greatly increased by mixing with the manures, while in a dry state, any substance which should render the ammonia more volatile.

Irrigation in Switzerland.

The following account of the mode of irrigation practised in Switzerland, was communicated for the *Journal of the Royal Agricultural Society*, by Mr. Jenkinson, who collected the information in a personal visit to that country.

The system of irrigation appears to have been practised in Switzerland as early as the fourteenth century, and has doubtless been so extensively introduced owing to the dryness and rarity of the atmosphere; but on account of the variety of the position of the various cantons, there are some modifications in the management of water meadows.

In the Canton of Aargau, which contains some of the best land in Switzerland, the meadows are irrigated with water alone, where the nature of the ground admits of its application. My informant, M. Jean Herzog of Aarau, told me that the water they apply possesses the most fertilizing qualities—that it is of a peculiarly soft nature—and that he has at times observed a kind of soapy or oily (*savoneuse*) substance floating over the meadows when they are in water. When the streams are increased by the melting of the winter snows, the water loses its efficacy, but when thickened with rain, their efficacy is increased. Also when the water is suffered to flow over too large an extent of land, its virtue is invariably diminished. M. Herzog also informed me that he never irrigated during the full moon, as he had always observed that when the meadows were allowed to remain in water during the clear moonlight nights, that the grass was perceptibly weakened, and that its very color was affected. He had applied water to different parts of the same meadow during the full and new moon, and had experimentally verified this fact.

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* "Progress of Agricultural Knowledge during the last Eight Years. By Ph. Pusey, M. P."

During the *extreme* heat of the summer the water is not left on the meadows by day, but is turned on during the night.

The water is supposed to act as a species of *manure*. The tests of that description of water which may be applied with advantage to the purposes of irrigation are—

1. The power of dissolving soap.
2. The good quality of the trout that inhabit the stream.
3. The growth of the water-cress and weeds at the bottom of the water.

Spring water, from a source warm in winter and cool in summer, is by some persons considered more productive than the water of streams.

Streams that leave calcareous deposits on their banks, or that form petrifactions, are always injurious, and those inhabited by coarse fish alone, are generally bad.

M. Herzog's method of treatment of his water-meadows, is as follows:—After the last crop of grass is cut, which generally takes place in the beginning of October, the water-courses are cleared out, the hollows are thus filled up, and the meadows are irrigated during the months of October, November and December, till the hard frosts commence, and the winter snows fall. Should there be snow, and the weather not very severe, the water is still kept flowing over the meadows in order to melt the snow; but as soon as there is any danger of the water freezing, irrigation is discontinued.

The water is made to flow over the land for two or three days. It is then turned off and employed in irrigation elsewhere; and after the interval of a week or a fortnight, according to the appearance of the grass, it is again made to flow over the same land for a similar period. This system is continued till the irrigation is stopped by the frost and snow, and the irrigation during the months of October, November, and December is considered as the most beneficial to the land. During the spring when the streams are swollen with the melting of the snows, irrigation is discontinued. In March the system is recommenced, but the land is left dry for longer intervals. In April the first crop of grass is cut. This crop of *grass* is made use of for the stall-feeding of the cattle; it is so rich that hay is always mixed with it. After cutting, the water is again turned on for two or three days, and this is repeated at intervals of a fortnight or three weeks till the end of May or beginning of June, when the grass is cut for *hay*. After this crop has been got in, the land is left dry for ten or twelve days, when the same system of irrigation is again pursued, except that a somewhat longer period is allowed to elapse between each successive watering. The second hay-crop is generally cut in August; the land is then subjected to a similar kind of treatment, and the grass is cut for the fourth time about the end of September or beginning of October; and this last crop is also generally made use of for the stall-feeding of the cattle who are never turned out into the water-meadows. From this method of treatment it appears that four crops of grass are usually raised, and in very favorable seasons an additional crop may be obtained. The quantity of hay produced by an acre of water-meadow varies from 53 to 68 cwt.

Water-meadows are sometimes, (I do not imagine the practice to be at all general,) broken up after a period of four or five years, and potatoes, corn, clover, &c. are grown for a few seasons, when the land is again converted into water-meadow.

With regard to land where irrigation cannot be practiced, very much the same system of cultivation is pursued as in the better managed farms in England—solid manure being applied in autumn, and liquid manure in spring, and after each crop of grass. Liquid manure is mixed with water only in very hot weather. I saw a a field on M. Herzog's farm which he had already cut four times this year. There was then, September 23, a rich crop of grass which would be fit to cut in the beginning of October.

In the Canton of Berne, the system of irrigation is not so generally or so exclusively employed. Through M. Zellweger's kindness I had introductions to M. Robert d'Erlach of Chateau d'Hildelbank, and M. Emile de Fellenberg of Hofwyl. M. d'Erlach farms at Hildelbank about 180 acres, 45 of which are arable and the rest grass land. He pursues nearly the same system as that which I have already described as practiced in the Canton of Aargau, except that after May he never leaves the water on the meadows during the day, but irrigates only by night. He does not often get more than two crops of hay, the first being generally cut in the beginning of June. He turns his cattle out in the autumn, and does not feed them when in the stable with grass cut from the water-meadows, but with grass cut from the fields which have been manured. There is a spring on his estate which contains a large amount of carbonic acid gas; indeed the poor often drink it as a mineral water, and the water from this spring possesses remarkable fertilizing qualities. M. d'Erlach also told me that water which is previously useless for irrigation, after passing through mills or villages, generally becomes available.

I also paid a visit to M. de Fellenberg's farm at Hofwyl. This is situated on a conical hill, the sides of which slope gradually away. When the late M. de Fellenberg first came there, this hill was little better than a swamp, while the low ground was frequently under water. Forty feet from the top of the hill there exists a stratum of gravel, at which depth springs were discovered. M. de Fellenberg conceived the idea of draining the whole farm, and applying the water which existed on the gravel bed to the irrigation of the sides of the hill. He formed drains mostly from 10 to 12 feet in depth, covering them above with flat stones, and filling them up with loose stones till within three feet of the surface, where he placed a layer of moss to prevent the soil from being carried away by the drains. A constant supply of water is derived by means of the drains constructed on the hill-side, and is carried along the hill-side to the different parts of the farm. The water-course that conveys the water to the more distant localities is covered over, so that the water may not be affected by the temperature of the air; thus when applied to the land it is warm in winter and cool in summer. It is the intention of M. de Fellenberg to convert the whole hill-side into water-meadows: (part is now arable land.) To effect this he removes the subsoil so as to make the surface even, taking care, however, to replace, the surface soil: the subsoil so removed is exposed to the action of the air, and is then mixed with solid manure, and applied as dressing.

M. de Fellenberg thinks he cannot irrigate too much. I never saw fields look brighter or greener than the water-meadows on his farm; and the grass was thick, as M. de Fellenberg expressed himself, "like a brush." The greater the fall the quicker the grass grows (though I should observe that the fall was in no part very excessive.) M. de Fellenberg irrigates as late as possible in the year, and only stops when there is danger of the water freezing in a mass on the land: as long as the water trickles underneath a surface of ice he continues watering, and considers that this surface of ice protects the roots of the grass. The water is made to flow over a certain portion of land for twenty-four hours. It is then shifted further on, and in about a week they return to the point where they commenced. This shifting is occasioned solely by the scanty supply of water, and were there a sufficiency of water, M. de Fellenberg would let it flow constantly over the meadows, except immediately before cutting the grass. Irrigation is discontinued from the period when the severe frosts set in until such time as the snows have melted. Generally irrigation is recommenced in the month of March, and, as I have before stated, the extent to which the irrigation is carried is only limited by the supply of water. M. de Fellenberg generally has four crops of grass; the first and last are employed for the stall feeding of the cattle; the two intermediate crops for hay. Some years he has even had six crops of grass, and he recollects one year when the grass was cut for the cattle as late as Christmas. The first crop is generally cut in May, and the last crop in the end of October. The quantity of hay produced (as I was informed) per English acre is from 65 to 70 quintaux (somewhere between 64 and 69 cwt.) M. de Fellenberg finds it necessary, merely on account of manure, to keep from fifty to sixty cows. He farms about 280 acres, of which 90 are grass land. He also feeds the cattle during part of the summer with clover. The cattle are never turned into the water-meadows. Those meadows which cannot be brought under irrigation are manured with solid manure in the autumn; and should there not be a sufficiency of solid manure to spread over the whole, the remainder is watered with liquid manure *while the snow lies on the ground.*

In the farm-yard are tanks in which every drop of liquid manure is collected. This is pumped up into a channel and conveyed by it to the water-courses, and thus with the smallest amount of labor some of the water-meadows are irrigated with water diluted with liquid manure. The grass from these parts is consequently richer and thicker, but the number of crops produced from land thus irrigated is the same as that which is produced from land irrigated with water alone.

There is a pump in the center of the manure pile by which the drainings are pumped up every morning over and upon the manure pile, while part of the fluid is thrown over rubbish, potato stalks, &c. The hay was stowed away in large lofts above the cow-stables.

The whole farm was a most interesting sight, particularly when it is borne in mind that the enterprise and perseverance of one man, has rendered what was formerly a marsh covered with coarse grass and rushes, one of the most productive and valuable farms in Switzerland. Nor were the immediate results of the late M. de Fellenberg's energy the most important. For the agricultural college and schools of Hofwyl have gained for their benevolent founder a higher name than that of a successful agriculturist. These establishments are now carried on by his two sons, who also manage the farm entirely themselves.

I only wish I could have given a better or more worthy description of what M. Emile de Fellenberg was kind enough to point out to me. On parting, he observed that it was owing to the peculiarity of the position that they have been enabled to bring about such great results; and that their system could not be applied except in places as advantageously situated. Still he added that Hofwyl was a proof of what the energy and perseverance of one man could effect.

I shall be very glad if the few facts which I have collected, and I have attempted nothing more, are not altogether without interest to you; and I must thank you for the useful hints you gave me as to the points which would be most deserving of notice. The inquiry opened a most interesting and to me a new field of observation, and added considerably to the pleasure of a vacation ramble, while through the kindness of Mr. Morier and M. Zellweger I had the good fortune of making the acquaintance of some highly informed Swiss agriculturists, of whose attentions I cannot be too sensible.

Cultivation of the Chestnut.

In answer to a request for information on this subject, published in our February number, we have received several communications, the most essential portions of which are comprised in the following summary.

Mr. V. W. S., of Syracuse, says—" The nuts may be planted in the fall, in drills, an inch or two in depth; or they may be preserved till spring, and then planted in the same way. If planted in the fall, they are liable to be thrown out upon the surface by the frost, when they will dry up and be lost, if not watched and covered again. The whole secret of success consists in preventing the nuts from being dried. If dried a very little in the house, in the fall, their germinating power is destroyed. I have an hundred or more trees growing from the seed, which I started in this way. The fresh nuts were buried in the earth together, when first gathered, and as soon as the ground could be prepared next spring, were taken thence and planted in the nursery row, a few inches apart. They had already sprouted. Some of them grew at once, and others did not appear till after the lapse of several weeks. They have grown finely for two years, and some of them are four feet high. I intend, the coming spring, to cut off the tap-root where they stand, by thrusting a sharp spade into the ground under them, striking the root say six inches from the surface. When they come to a suitable size, after this treatment, I presume they will bear removal without trouble, which the tree growing naturally in the woods will not."

Mr. I. Hildreth, of Big-stream Point, N. Y., says—" In the first place, the nuts should not be allowed to dry, but as soon as gathered should be mixed with leaf-mould sifted, and then put in a dry place, below the frost in the ground, for if they are frozen, even in the earth, they will be injured; and if several times frozen and thawed, they will be killed, as the frost destroys the texture of the nut, making it soft. After the chestnuts have been kept in this manner through the winter, early in the spring, as soon as the ground opens, they should be planted out where they are to remain, as they do not transplant well. They should be protected from severe frosts by leaves or some such substance, until they appear above ground, when there will be no further trouble, except to cultivate and hoe them until they become strong, from which time they will take care of themselves. It would facilitate the growth of the young tree, if each nut was planted in a double handful of coarse leaf-mould, as such is the substance which nature has provided for them where they grow naturally—at any rate it will prevent the earth from becoming hard about the young plant, and serve as manure."

Mr Henry Halsey, of Windsor, Ct., sends the following: " In the fall of 1849, in October and November, I planted about two acres with chestnuts. The land was a poor sandy soil—previous crop, rye. At the time of planting, the ground was literally full of the burrows of the ground-mole. Not more than one-third of my seed came up, in consequence, I believe, of the destruction of it by this troublesome little animal; for, on examination of the missing plants, I almost invariably found a mole-path to where the seed was planted. I planted the seed from half an inch to an inch in depth, merely turning up the ground with the corner of the hoe, and placing the seed, and then laying the earth back again. I once planted some horse-chestnuts that had been dried; not one of them sprouted. I afterwards planted some as soon as they fell from the tree, and in this case there was scarcely a failure. I have reason to think the common chestnut should be treated in the same manner. If your correspondent will take the precaution to have his seed, as soon as gathered, put and kept in moist sand or earth until planted, I think he will find no difficulty in getting his seed to sprout. I have treated mine in this way."

Mr. Jas. W. Gray, of New-Fairfield, Ct., says—" I have succeeded well by burying the nuts in the fall in a dry place, with a slight covering of earth, as nurserymen bury peach stones. In the spring, as soon as the ground is in a fine friable condition, take them and plant them in rows, 10 to 12 inches apart and 3½ feet between the rows, in light soil. They will grow from eight to to twelve inches the first season. The nuts should be put in the ground as soon as possible after gathering. Perhaps your correspondent has failed to have them vegetate by letting them get too dry before planting. They grow with me as readily as peach stones."

A correspondent with the signature J. T. H., Newton-Center, Mass., thus describes his mode: "My practice has been to gather the nuts when they had fallen from the tree, and were fully ripe—always selecting the largest and best; and then, without drying, mix them with sand and loam, in about equal parts. There should be enough of this to prevent the nuts from heating. Then they may be put into a cellar, or any other suitable place, where they should be kept suitably moist, as well as free from the depredations of squirrels, mice, &c. In the spring, when the ground is sufficiently dry, they may be planted; the land having been well pulverized, and manured with compost. They should be but slightly covered, unless there is a prospect of dry weather, in which case they may be covered deeper. They sometimes rot in the ground by being covered too deep. Care should also be taken after they are planted, that they may not be carried off by squirrels, or any other animals. They will make from one to two feet growth the first year, and sometimes more. They may remain in the seed-bed two or three years. When moved, the tap-root may be cut off. Should they grow crooked, they may, after they have got stout enough, be cut down even with the ground, when they will throw a nice, straight shoot, which will grow very rapidly, so that little time is lost in so doing while you get a straight tree."

J. R. L., Wilmington, Del., writes—"Take chestnuts as soon as they fall from the tree; plant in rows in white sand, one inch under the surface,—the sand packed hard; put the box in a green-house or hot-bed; water very sparingly until the shoots appear, which will be in a month after planting; then increase watering; when the plants are a foot high, prepare a compost, of sand, fresh soil and leaf mould, equal parts; transplant each root into a six inch pot, filled with the compost; keep the plants in the house or hot-bed until thoroughly rooted, that is until the roots fill the pots, turn out the ball entire, and plant where you wish the tree to remain. The first winter tie up in straw. By this method we have been entirely successful—never having lost one plant—the trees bearing the fifth year from the seed—and not over 5 to 6 feet high. The Pecan can be raised in the same way in this latitude."

G. B. D., Burlington, N. J., writes,—"If your correspondent from Otsego will pack his chestnuts in moss or damp sand, soon after they fall from the tree, and place them in a cool cellar until the ensuing spring, and then plant them out, I think he will have little difficulty in growing them."

Mr. Norton Case, Granville, Ohio, says—"In the fall of '42, I gathered some chestnuts, so superior in beauty to any I had ever seen, that I thought to raise some trees, in hopes to get some like the parent. I took leaves and muck from the woods, mixed chestnut leaves and muck in a leaky box, (sufficiently tight to keep out the mice, but not the rain,) and put them on the north side of the fence. In the spring I prepared my ground as I would for beets, (deep and mellow;) when the chestnuts began to sprout, I planted them in rows an inch deep, spreading over another inch of leaves and muck. All the good and sound nuts grew, but they grew very slow the first three or four years. The last two years they have grown faster, being now from three to four inches through at the but, and from ten to twelve feet high. They were transplanted at two years old, without loss. Some have been sent to a distance of 100 miles, but with what success I have not learned. I presume the bad success your correspondent has had, is from the nuts getting dried. Mine were put in the muck the day they were gathered. I have grown the walnut in the same way—both the hickory and black walnut."

Cutting and Curing Grain.

Experiments have pretty well settled the fact that wheat should be cut while the grain is in the state called *doughy*. This conclusion was, indeed, reached several years since in regard to wheat, but it has by the experiments of Voelcker, been clearly shown to be applicable to oats; (See Cultivator for 1850, p. 260,) and it is also known to be equally applicable to Indian corn. At first, it was feared by some that there would be a great shrinkage of the grain cut in this stage, which would amount to absolute loss. It is proved, however, that the sap of the stems or straw, is sufficient to perfect the grain, and that the grain, under such circumstances even possesses some valuable properties which it has not when it remains uncut till dead ripe.

Mr. Colman states that he found by many inquiries in England, that "the best rule for harvesting is not when the stalk below the head has changed color, and the circulations have consequently ceased, but when the grain, though it has ceased to yield any milk upon pressure, is yet soft." The advantages of cutting at this stage are briefly given as follows: "Wheat cut early affords more grain, yields less bran, makes better flour, wastes less in gleaning, gives better straw, and enables the farmer to do the work more leisurely."

C. W. Johnson, in the *Farmer's Encyclopedia*, observes—"Grain, if not reaped until the straw is wholly yellow, will be more than ripe, as the ear, generally, except in the late seasons, ripens before the entire of the straw, and it is observable that the first reaped usually affords the heaviest and fairest sample. The indications of ripeness in wheat are few and simple. When the straw exhibits a bright golden color from the bottom of the stem nearly to the ear, or when the ear begins to bend gently, the grain may be cut. But as the whole crop will not be equally ripe at the same time, if, on walking through the field and selecting the greenest heads, the kernels can be separated from the chaff when rubbed through the hands, it is a sure sign that the grain is then out of its milky state, and may be reaped with safety; for although the straw may be green to some distance downwards from the ear, yet if it be quite yellow from the bottom upwards, the grain then wants no further nourishment from the earth, and if properly harvested, it will not shrink. These tokens will be found to sufficiently indicate the ripeness of wheat, barley and oats; but that of rye arises from the straw losing some of its golden hue, and becoming paler."

Some of the most valuable experiments which have been reported on this subject, are those of Mr. Hannam, in the 12th and 13th volumes of the *Quarterly Journal of Agriculture*. The trials were made under his own direction, and with great care. He cut samples of wheat at five different times, as follows:

No. 1, was cut a month before fully ripe.
2, " three weeks "
3, " two weeks "
4, " two days "
5, " when fully ripe.

Of these lots, 100 pounds of grain of each yielded as follows:

No.	Flour.	Seconds.	Bran.
1,...	75 pounds, ...	7 pounds, ...	17 pounds.
2,...	76 "	7 "	16 "
3,...	80 "	5 "	13 "
4,...	77 "	7 "	14 "
5,...	72 "	11 "	15 "

Thus it appears that No. 3, which was cut two weeks before it was fully ripe, was superior to the other lots; giving more per bushel than No. 5, (cut when fully ripe,) by 6¼ pounds of flour, and a gain of about fifteen per cent on the flour of equal measure of grain; 100 pounds of wheat of No. 3, makes 80 pounds of flour, while 100 pounds of No. 5, yields 72—showing an average of eight per cent in favor of No. 3. In grinding, it was found that No. 5 ground the worst—worse than No. 1. There were in No. 5 a greater quantity of flinty particles which would not pass the bolt, than in any of the other lots. The bran from No. 5 was also much thicker and heavier than that of No. 3.

Mr. Hannam concludes, therefore, that in cutting wheat two weeks before it is fully ripe, there is a gain of fifteen per cent of flour upon equal measures, a gain of fourteen per cent in the weight of straw, and a gain of 7s. 6d. sterling in the value of every quarter (560 lbs.) of wheat. Many trials have been made in this country in cutting wheat at various stages, and the results agree, generally, with those above given.

But when grain is cut before it is ripe, it is necessary that it should undergo a process of curing, before it can be safely stored in the barn or stack. Hence it is usual to place the sheaves in shock for several days, according to the state of weather, or the degree of moisture in the straw. But it sometimes happens that loss is occasioned, more or less, by the sprouting of the grain while it stands in shock—especially in warm, showery, or damp weather. This was the case last year, in the western part of this state, and it is not unusual in other states. To guard, as well as possible, against loss from this cause, the shocks should be put up in the best manner. They have been made of various forms; but those affording the most effectual protection are described in the *Pictorial Cultivator Almanac*, belonging to our current volume, page 10.

Caps, made of cotton cloth, have been used for protecting hay, while in the process of curing. We have several times described the mode of making and using them. (See Cultivator for 1848, p. 286—for 1849, p. 260—for 1850, p. 315, 380.) They cost but little, and have proved very useful in protecting hay from rain—many farmers who have used them, have derived an advantage in one season, more than sufficient to pay their cost, and the caps will last, with proper care, many years. We see no reason why they might not be used to profit in curing grain in shock.

Stephens Farmer's Guide.

ANALYTICAL LABORATORY, YALE COLLEGE, }
New-Haven, Conn., May 28, 1851. }

MESSRS. EDITORS—I place the title of the above work at the head of this letter, and propose to make some comments upon it, with the intention of leading our farmers to an appreciation of its value. As my name is connected with the book, it may be thought that my writing in its praise is somewhat indelicate, but I can free myself from this charge by saying here,—that I never expect to derive the least pecuniary benefit from its circulation, having no interest whatever in its sale, except that which arises from a strong desire for the spread of agricultural knowledge. The book is owned and published by Leonard Scott & Co., of New-York, in connection with the Messrs. Blackwood of Edinburgh. My part has been the appending of some notes and commentaries, limited in their extent by the already voluminous character of the work.

Under these circumstances, I have felt that there is no impropriety in my calling some attention to this work, in addition to those commendatory notices which have already appeared in your columns. It is now rapidly approaching completion, and before this letter is printed, is expected to be entirely finished. The American public will then be in possession of one of the most completely and beautifully illustrated books issued from any press, overflowing with matter and detail, and accurate in every department of practice, for the small sum of $5, an almost unexampled instance of cheapness.

In recommending the perusal of this, or any other standard foreign work on agriculture, we are always met in the outset by the objection, that this author has written of practices and theories which are applicable to another country, and not to ours. It is said—that these foreign writers will only lead us astray, will only recommend systems that are totally inapplicable here. Now this is partly founded upon reason. If we were to take Mr. Stephens, or any other foreigner for our guide, and follow his directions implicitly upon one of our farms, the result would probably be quite disastrous; this, however, would not prove that the system was not a good one for another country, and that parts of it, or modifications of it, might not with advantage be adopted here.

I maintain that the great principles which ought to guide the farmer, are the same the world over. He who cultivates the soil of a high northern climate, and he whose fields are bright with the ceaseless verdure of the tropics, must be guided, if both are good farmers, by the same great laws. Climate exercises a controling influence upon the character of the crop, and upon the kind of cultivation which it is most profitable to adopt; so also does nearness to, or remoteness from, the great markets. The appearance of farms then, the implements used, the crops ripened, all differ most materially, and yet I reiterate the assertion that at the bottom the same rule governs in every case.

All cultivated plants, whatever their nature, draw a portion of their food from the soil; if they are carried away year after year, the supply of certain substances in the soil becomes greatly reduced, so that finally the crop will not grow, excepting in places where fertility is constantly renewed from foreign sources. Here then, is a great rule, applicable to all soils and climates—the farmer may be sure that his land is becoming poorer and poorer, unless the loss occasioned by the carrying away of crops is in some way made good. This is one case; I might mention many more. The true principles of mechanical improvement in the soil, and of cultivation generally, are the same in every country; so are the principles involved in the breeding and feeding of animals, the composition of manures, &c. &c.

Thus it is, that we may derive benefit from a careful study of the habits, methods and general systems of British farmers. Some of them are, without doubt, the best in the world; they have made their profession a study, have become thorough converts to the idea of constant progress, and have brought large capital to the carrying out of improvements. But it would be worse than useless, even ruinous, for the American farmers to follow blindly the course here laid out for them. In the present condition of our country, such *extremely* high cultivation could not be profitable, because it would come into too direct competition with the cheap and almost boundless lands of the far west.

Nevertheless, our farmer may follow his British *Guide* through the whole field of his labor, getting a hint here and an idea there, and new facts everywhere; constantly wiping away old prejudices, and discovering that we have not by any means confined all knowledge to this side of the Atlantic, or if *very candid minded*, that we are really, as a whole agricultural people, years behind our British ancestors.

Such especially will be the results, after reading this work by Mr. Stephens, for it is unique in the long list of agricultural publications. It is really a literary curiosity, in the completeness and fullness of its details and illustrations. Mr. Stephens seems to have brought to his work a mind so full of his subject, as for the time to banish every thought of foreign topics. His zeal in explanation and illustration never flags, and his mind embraces every minute detail of the simplest operation, with seemingly the same degree of interest that attaches itself to the most important and attractive departments. This feature of the work has been criticised, by those who already possess a considerable share of knowledge upon the subjects which he teaches, but it is in reality precisely that which renders it most valuable to the beginner; he finds the minutia of everything fully gone into, and if he wishes to know the manner of performing any work properly, collects all that he can need in the way of explanation. These little hints relative to the details of work, are just what are omitted in most books, and in a majority of cases new modes of working or new implements fail at first, just because such seemingly unimportant directions have not been given.

Few writers on kindred subjects, have studied so faithfully as Mr. Stephens must have done. Whether it is stuffing birds or sausages, or cooking a steak, or plowing and harvesting, it is all alike to him; he takes each branch or subdivision, and devotes himself to it without thought of trouble, time, or labor; his only aim is to give a full, complete, and faithful account. A practical farmer himself for many years of his life, he has a thorough knowledge of the young farmer's wants, and has applied himself to his task with no less perseverance and thoroughness than enthusiasm. How great this task has been, the volumes now in question serve to illustrate, but not until the reader has gone over it all carefully, can he fully appreciate the labor which has thus been so well performed.

Most works that enter so fully as this does into detail, are extremely dull and tedious, so much so as to repel all but the real student, or those who seek some distinct item of imformation. There is however no such defect to be found here; on the contrary the book is in many parts interesting even to a general reader. This I explain by returning to the peculiar quality of mind to which I have before alluded, that leads the writer to throw himself into the present subject, whatever that may be. When we find this peculiarity coupled with a wide scope of general knowledge, and the thorough command of any particular department of science, a mind of no ordinary interest is the result. It is thus with Prof. Agassiz, now of Harvard College; he illuminates his subject and renders it attractive, no matter how trivial in itself, by the fire and enthusiasm of his own genius: large audiences who would in all other cases turn away in disgust from such themes, listen in rapt attention for hours, while he enlarges upon a tadpole's tail or a bullhead's care of her young.

Thus it is in a considerable degree with the writings of Mr. Stephens; we are often carried with interest through what would otherwise be very dry fields, by the enthusiasm and earnestness of the author; this acts as a spell upon us, and we clear out the cow stables in company with the greatest satisfaction, cut turneps into particular sized pieces, inspect the edges of cutting tools, oil the grindstone, and clean the harness, with perfect readiness; the writer is evidently for the time engaged in these operations heart and hand, and before we know it we are fully absorbed also. It is a great triumph to make so large, voluminous, and eminently practical a work, as the Farmer's Guide, so entirely readable from beginning to end. I think I hazard little in saying that not another man in Great Britain could have done it as well.

These opinions relative to the value of this work, and as to the attractiveness of its style, are not singular on my part, for the English press has been almost unanimous in its tone of approbation, and the sale for so costly a series has been uncommonly large. I recommend it therefore without hesitation, to the careful attention of all American farmers who desire to see how broad and noble a field, the practice of their profession may be made to cover.

At the very commencement they will find an abstract view of the applications of science, that will richly repay the whole price of the two volumes; and so on to the end, will constantly discover points and suggestions of great value. It is true that there are many features in improved British farming which will probably never be adopted here, but in the leading rules of conduct we shall gradually approximate more and more, as our population increases, and capital becomes more concentrated.

I have endeavored in my notes to briefly call particular attention to such details and practices, as seemed to me particularly adapted to our country, and to make such comparisons in our own favor or otherwise, as most naturally suggested themselves after a rather extensive acquaintance with the practical agriculture of both countries. No intelligent farmer can rise from the perusal of these books, or of any considerable portion of them, without feeling that he has gained a vast amount of useful information, and also perceiving that we as an agricultural people have an immense work to do.

I think that American farmers owe something to the Messrs. Scott, for the style of this publication and for the spirit which has led them to assume its risk. I hope that they may in the end be amply remunerated by its sale. Yours truly, JOHN P. NORTON.

Pulverization of the Soil.

The fact that plants can only receive their food in a soluble state, cannot be too strongly impressed on the mind of the farmer. He should also be acquainted with the agencies which bring the crude elements into this state of solution. Hon. L. C. BALL, in an address before the Rensselaer County Agricultural Society, gave some good illustrations of this subject, in speaking of the "mechanical preparation of the soil." He explains the importance of this in reference to the preparation of soluble food for plants, and observes—"All these operations and results which I have endeavored to explain, take place no where else than upon the surface of the earth; *in the presence of light, heat, air, moisture and electric fluids;* subject to the separate influence of each, and exposed to the combined action of all. At that moderate distance below the surface, at which these influences cease to operate, all tendency to decomposition and decay, and all attempts at changes and alterations of form and substance, are arrested. The same elements are doubtless every where diffused, but they are locked up by the conditions of their original combination, and will so remain until brought to the surface, and their prison doors opened by some agent already free. Bury this piece of rock below the influence of heat and moisture, and unless thrown up by some convulsion of nature, it will remain there unchanged for ever. Place it upon a cultivated field, let it be turned by the plow, and exposed to the decomposing agents existing in the air and in the soil, until it is pulverized, and in a few years it will appear upon your table in some article of food, or upon your person in the garments you wear, or be sent to market in the form of beef and pork, and exchanged for tea and sugar, or silks and laces."

Fattening Cattle in Dutchess County.

EDS. CULTIVATOR—The business of fattening cattle by the farmers of this county, for the New-York market, has been followed for upwards of twenty-five years, and for the last three or four years has received a great impetus from some of our most wealthy and influential land-holders—they adopting it, instead of keeping fine wooled sheep, as formerly; their object being to make more money. But the all important question—"Is it a money-making business to fatten cattle at all?" seems not to have been fully weighed. That the time has been when this business was one of great profit to those engaged in it, is not doubted. Before the countless acres of the inexhaustible west were opened to the sun-light, before the cultivated grasses were strewn broad-cast over the boundless prairies, and before the iron horse ran his race of speed from state to state, and from lake to ocean, bearing in his rapid flight loads of the "Yankee Nation," who, planted on that teeming soil, send back to us not "Yankee Notions," but the substantial things of life, the same that Dutchess used to produce and grow rich upon *before* all this occurred. Now she struggles—not to make those articles, for that were in vain, but to keep *alive* until those "better times" for which we have so long and anxiously looked.

To turn this struggle into one of success, is an object greatly to be desired. In order to accomplish this, it becomes necessary to carefully examine the position occupied, and in case it should prove to be one left behind by the "spirit of the age," then should our hard-working farmers leave it also, and adopt some business more consonant with the times in which we live. Then we repeat the question—"Is it a money-making business to fatten cattle at all in this county?"

The usual course pursued is to purchase steers in the fall, wintering them on hay, and allowing them the choicest of our pastures during the following grass season. Another method, of feeding corn-meal, will be considered in another article. A medium sized steer of good quality, may be bought from the droves of lean cattle for $30, and after 12 months good keeping may weigh 750 pounds New-York weight, or the four quarters. He will require two tons of hay to keep him 183 days, and will also require 182 days pasturage, worth here 5 cents per day, or 35 cents per week. Thus it foots:

1849, Oct. 1st., one steer,....................	$30	00
Nov. to May, two tons hay at $5.50,.....	11	00
May to Nov., 182 days pasture, at 5 cents,	9	10
Commission for marketing,............	2	50
	$52	60
1850, Oct. 1st., by 750 pounds beef at 7 cents,..	52	50
Loss,..........................	$00	10

It will be perceived that the interest on the capital invested is not included, as that and the attendance should be balanced by the manure. Hay is worth $15 per ton in New-York, and it can scarcely be said that the home estimate above is too great. Some may argue that they feed straw, and save thereby; but that is worth 6 cents per bundle in New-York, and a steer will eat two or three bundles in a day. Corn-stalks, than which there is no better food for cattle, are worth two cents per bundle here, and a steer will eat four bundles a day if kept as he should be. Few farmers fatten a steer to the acre of their pasture land—where too, each acre would produce two tons of well cured hay, if mown instead of being pastured. Then, surely, the estimate of pasture cannot be too high. But low as our estimates are, we find a balance against us, and he who makes more money at fattening cattle, than at other branches of business, must be a *lucky* man, indeed. With a railroad on our eastern border, and another on the west, that give access to the best market in the Union in the short space of three hours, and three hundred and sixty-five times in a year, we cannot but express the opinion that this slow and uncertain business must give way to that of a more profitable nature. AMENIA.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Drying Fruit.

A correspondent inquires for a description of the best mode of drying fruit. While so much attention is given to the cultivation of fruit, there still exists a great deficiency in good, cheap, and expeditious methods of drying—which by converting perishable property into a condition for long keeping and easy transportation, may greatly increase both in extent and profit, the culture of the highest flavored sorts.

Dried apples and dried peaches already constitute a considerable article of commerce. But their *quality* is immeasurably inferior to that which might be attained. The same difference in flavor exists between an unpalatable seedling and the most highly improved grafted variety, whether they be fresh or dried. Yet the poorest apples are usually selected, simply because the dried fruit is bought by the pound, and not for its excellence. Late or inferior peaches are chosen, because their owners have no other use for them; when, besides the inferior flavor of the late seedlings so largely used, the cool damp weather to which they are exposed while drying, does the work in a very imperfect manner, and a half-decayed flavor is often mingled with that of the fruit itself. If dried at all in the open air, it is of much consequence that early sorts, both of apple and peach be selected, that the benefit of a hot sun may be secured. Why is it not as easy to plant and raise early prolific sorts, that will ripen at a time when two days of hot sun will dry them, as later sorts, which will scarcely get dry at all in the open air?

A good and faultless mode of using artificial heat appears not to have been yet practiced. The great and existing deficiency is the want of a *free circulation* of the heated air. Hence the reason that the use of flat boards and shelves is usually attended with greater or less decay. Light wooden lattice-work is better, but still but imperfectly admits a free circulation, without making the slits too wide to prevent the dried fruit from falling through. Cheap netting of light twine is a still further improvement; an easy mode of making it is thus described by a correspondent of the Michigan Farmer:—"Take common carpet yarn, warp it for two or three yards' length, just as you choose; use a five or six quarters reed; in drawing through the reed, use every third or fourth space between the teeth of it; to insure strength, double your thread occasionally, and in weaving, beat two or three threads closely together, and then more open, alternately; when taken from the loom, fasten it to a light frame, and it is ready for use." Frames covered with millinet would probably be found well adapted for drying the smaller fruits.

Rooms or buildings made for drying by artificial heat, must admit a very free ventilation. We have found that when fruit on latice shelves is placed near a fire or under a stove, where there is no current of air, and where heat is imparted solely by radiation, it becomes heated without drying, for there is no current to sweep off the moisture about it. But when suspended immediately over the stove, where the heated air is constantly ascending, the process goes on rapidly and perfectly. When thus dried, it is nearly white in color, and retains its flavor unimpaired, and is incomparably better than a great deal that we often see, which is brown with age, and spoiled with incipient decay, before the moisture is all expelled by the tardy process to which it is subjected.

The following would probably be a well arranged drying-room for this purpose. Let the shelves, made of netting stretched on frames, occupy the interior or central portion, of the room, one above another, at free intervals, and leaving sufficient space for the person in attendance to pass freely round on every side, next to the wall. This would be not only more convenient, but admit a better circulation of air, than if the shelves were placed against the wall. The room might be heated with a small stove, the pipe of which should at first pass horizontally as near the floor as possible, and afterwards ascend to cause sufficient draught. This arrangement would heat the room far better than to place the pipe overhead, as is too often practiced; for in the one case, the heat will rise through the whole height of the room, and benefit all parts alike; while in the other, it only warms the upper part, and neither benefits the lower portions of the room nor causes a circulation of air. The room must be well ventilated at each end near the top, to let off the vapor constantly arising; for even fresh cool air is better than a hot air charged with moisture. The ventilators may be covered with wire-gauze when it may become desirable to exclude flies, wasps, &c.

Peaches for Drying.

[A female friend, who is a thorough practical horticulturist, has kindly furnished the following useful notice, which, like every thing else from her pen, is the result of more than ordinary judgment and experience.]

Having been in the practice of drying large quantities of fruit for family use, I have been led to observe which kinds yield the greatest proportion, from a given amount of fresh fruit. I find that Kenrick's Heath is by far the most productive variety for this purpose. It is a large green fleshed peach, ripening the last of 9th mo. (Sept.) with us, combining every desirable quality. In the autumn of 1850 three bushels of fresh peaches, produced half a bushel of dried ones. Five bushels of apples, I think, is what we allow to make one of dried fruit. Then, the labor is not more than *half* as great, to prepare the peach, as it is the apple—no *coring* is necessary,—only pare it, split it in two, and lay them on boards, in the oven after taking out the bread; leave the door open to permit the moisture to evaporate, and in two days they will be ready to put away. This has been my experience for the two seasons past. So highly do I esteem this variety, that I have budded several hundreds, with the intention of planting an entire orchard of them. They are even *more profitable* than the apple, and come much sooner into bearing. E. S. *Hillside, Wayne county, N. Y.*

To repel the Black Ant.

R. G. Pardee, of Palmyra, N. Y., informs us that after trying the application of a large number of offensive substances, for repelling the black ant from his borders, he has found *tanner's oil* to be completely effectual.

Answers to Inquiries.

TRANSPLANTING STRAWBERRIES.—"When is the best time to transplant strawberries, after it has been omitted in spring?" *G. W. C.*

As soon after the bearing season as practicable. The earlier they are set out, the better will be the growth they will make before winter; and the more perfect will be the crop next year.

Many persons lose all the plants they remove at midsummer, even after laborious watering, by not doing the work right. As soon as the plants are taken up, the leaves should be all removed but the small central ones not yet half expanded; the roots should be immersed in mud, and the plants then set out; the earth should be settled about them by pouring on water, and then fine earth drawn around them to form a mellow surface. A coating of fine manure, two inches thick, should then be placed about them, which will keep the ground moist, and prevent baking if any subsequent watering is needed, which will scarcely ever be the case. On suitable soil, not one plant in twenty will be lost.

SUCCESSION OF PEARS.—"For how many months of the year can a supply of good pears be had, and what would be a good selection for this purpose?" *W.*

In the northern States, pears may be had for nine months of the year without difficulty, if sufficient attention is given to selection and culture. The earliest pear is the *Amire Joannet*, small, productive, and third rate. A week later is the *Madeleine*, a good variety, ripening with the wheat crop. The Summer Doyenne ripens about the same time, and is nearly as good,—both being eminently desirable sorts. A week or two later are the *English Jargonelle* and *Skinless*, pears of good but not of the highest quality, but better than many of the "far brought, and dear bought" varieties of which so much has been said. The Jargonelle is worthless without house-ripening, and the Madeleine is greatly improved by it. Next to these follow the *Bloodgood* and *Dearborn*, then the *Rostiezer* and *Tyson*, which are the two best summer pears for quality. The only objection to the Rostiezer is its small size; it holds the same place among summer pears that the Seckel does among those of autumn; and the only objection to the Tyson is its tardy bearing. The *Bartlett*, which commences ripening at the close of summer, is far famed for its size, productiveness, and fine quality, and the free growth and early bearing of the tree. Among the best sorts for early autumn, are the *Washington*, *Bilboa*, *St. Ghislain*, *Andrews*, *Belle Lucrative*, and *Heathcot*, all of medium size and fine quality. After them follow *Flemish Beauty*, *Louise Bonne of Jersey*, *Onondaga*, *Autumn Paradise*, *Beurre Bosc*, *Stevens' Genesee*, and *Urbanisti*, which are all above medium in size, and *Seckel*, the highest flavored of all pears, which is small. A little later are *Dix*, *Beurre d'Anjou*, and *White* and *Gray Doyenne*. The two latter are unsurpassed for their good qualities, in all localities adapted to their growth. The *Diel* and *Winkfield* ripen late in autumn, extending into winter. Among the best early winter sorts are *Glout Morceau*, *Winter Nelis*, *Aremberg*, and *Beurre Gris d'hiver Nouveau*, or *Gray Winter Beurre*. The *Lawrence*, a new sort, also promises very highly. *Passe Colmar* (which should be well thinned, and have good culture) and *Prince's St. Germain*, are good pears for mid-winter and *Easter Beurre* the best long keeper that has been tried to any considerable extent in this country. To ripen into a high flavor, the latter must have a very rich soil, and be well mulched in dry seasons. Specimens of this sort have sometimes kept nearly into summer, but such specimens are not commonly the best ripened, and are imperfect in flavor. An indispensible requisite to the successful keeping of winter pears, is the right kind of a cellar; which should be cool without freezing, moist enough to prevent shrivelling on one hand, and rotting on the other. From this, as is well known, they are to be removed into a warm room to become soft, rich, and fine for eating.

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Labor and its Pay.

The New-England Farmer gives a good example of the successful management of an orchard. When the trees were an inch in diameter, manure was applied, and they were kept dug around, the circle thus cultivated being yearly increased in size as the roots extended in length. This circle has now become twelve feet in diameter. Chip manure, bones, ashes, and other fertilizing substances, are often applied. The result of this labor is, that the owner obtains yearly large crops of beautiful and excellent fruit, and obtains more money from his orchard than many farmers do from all sources, although this does not constitute his main business.

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Garden Economy at Midsummer.

From almost every kitchen, there is a large amount of slops, soap-suds, and other waste liquids thrown away, disfiguring by a fœtid puddle some half concealed spot of the kitchen yard. It is always as pleasing as it is rare, to see the back yard kept in as clean, neat and finished condition as those portions of the premises kept specially for exhibition to the eye. Happily there are a few, who by a well managed economy in this particular, not only avoid all offensive odors about their dwellings, but contribute towards the vigorous and healthy growth of their garden vegetables and fruit trees, by the timely irrigation thus given them. We should like to exhibit to some who have been neglectful, the kitchen court of an acquaintance, which will challenge for neatness and cleanliness, any of the front yards of his neighbors.

Irrigation simply in itself is highly beneficial to most garden plants; the benefit is increased by the fertilizing matter often contained in waste water. On light or gravelly soils for example, a free supply of water doubles the growth of the raspberry, and greatly improves the size and flavor of the fruit; and strawberries, as the fruit approaches maturity, are almost incredibly benefitted. A cultivator in one of our villages, applied water freely to his vegetables during the past summer. "In ten days," he says, "early potatoes grew two-thirds in size." He had never obtained good potatoes before; other crops were greatly benefitted.

In applying wash to fruit trees, it will be of little use to pour it on a narrow spot just at the foot of the trunk, where but few of the young roots can receive it, but it must be dashed on broadcast, as far as the circle of roots extends.

An acquaintance has procured a wheelbarrow, furnished with a broad tire, that it may pass without sinking, over mellow ground, and a barrel with a hinge-lid, into which all slops are thrown, and wheeled on the garden as often as necessary. If the odor of the barrel becomes too offensive, a quart or two of charcoal-dust thrown in at once corrects the evil

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Timely Hints

Many cultivators, who devote a fair proportion of attention to their fruit trees in spring, forget and almost wholly neglect them at mid-summer. To such we would briefly suggest the importance of keeping a constant eye to them, in order to preserve them in good cultivation, and to prevent disaster from disease or the attacks of enemies. A tree will not thrive, unless it is widely and deeply spaded about, or otherwise kept with a clean and mellow soil. For newly transplanted trees, mulching, or covering *heavily* with straw or other litter, is of great importance in the hot season. On dry soils, the *fruit* of the raspberry is greatly benefitted by mulching. With gooseberries, a *deep* littering is indispensible.

If the *black-knot* should make its appearance on the plum, all the affected parts should be immediately cut off and burned. This, if repeated when necessary, will keep the trees clear of the evil. The labor of watching and cutting, will not be a tenth part as much as every gardener willingly devotes to the culture of a crop of cabbages. Pear trees affected with the blight are to be similarly treated.

Newly transplanted trees, with tall naked stems, are often injured by the hot sun striking upon them, especially at points which happen to incline from its rays. They may be protected by two narrow boards nailed together, so as to enclose the trunk of the tree in the angle. Stiff white paper wrapped loosely around and tied with twine, serves a good purpose.

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Hardiness of the Osage Orange.

Benjamin Hodge, of Buffalo, gives in a late number of the Horticulturist, an unfavorable opinion of the Osage Orange as a hedge plant for the north, derived chiefly from the following facts. The first season the growth was nearly two feet, the whole of which was killed by the subsequent winter, the roots remaining uninjured. The second year (1850) shoots were thrown up three or four feet high, from one to two feet of which were killed last winter, although not a severe one.

After experiments continued for more than *ten years*, in a climate where the thermometer is not unfrequently 6 or 7° below zero, the writer of these remarks has been induced to adopt a different opinion. Solitary trees, it is true, are often one-third or one-half killed, and young seedlings very often down to the ground; but there are three substantial reasons why this liability is not a formidable objection to a hedge. In the first place, the killing does not extend further down than the young hedge should be cropped or sheared; secondly, when growing thickly together, the shoots protect each other in a remarkable degree from the effects of the weather; and thirdly, when kept sheared, the growth ceases to be succulent and tender, and the shoots are not killed to any extent whatever. In a hedge which has stood two years, partly untrimmed and which was made of three-year plants, the long and succulent shoots which had shot up alone to some height, were observed this spring to be killed at top; but the smaller and thicker shoots below, were in leaf to their utmost extremities. The fact that a growth of three or four feet was made the second year as above stated, indicates a fertile soil and a consequent succulence not favorable to endurance of intense frost; the result is very different on a soil of moderate fertility and with cropped shoots.

The wall of impenetrable armor which the Osage Orange presents by its profusion of sharp thorns, renders it particularly valuable as a boundary for fruit gardens, and it is believed that its less rapid growth at the north will remove the objection sometimes made to it in the middle and western states, of drawing too strongly on the fertility of the adjacent soil.

It is not expected that in frosty valleys and in such localities as are usually too cold for the peach crop, this hedge will answer; but in other places there is so strong reason to believe its fitness, that further experiments to say the least are fully warranted.

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The Fame of a Name.

The celebrity of the Virgalieu pears of western New-York in some of the eastern markets is well known. The value of this good name is quite amusingly shown by a story related by L. F. Allen in the Horticulturist. Two gentlemen of the Genesee country sent each several barrels of Virgalieu pears to be sold in New-York. One of them called his pears the "Virgalieu," the only name *he* knew; the other, to be precise, marked his "White Doyenne." In a few weeks the consignee returned as an account of sales. The Virgalieus brought $12 per barrel; the White Doyenne's, $6. The seller gravely remarked that they were both fine specimens of pear; but if the owner of the Doyenne's had only sent his Virgalieus as his neighbor did, he could have sold them for as much!

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Experiments with the best Strawberries.

M. G. Warner, well known as the leading strawberry culturist at Rochester, reports the following results in Moore's Rural New-Yorker. The soil was only good plowed land.

The *Hovey's* produced the largest berries, *Burr's New-Pine* next, Columbus next, &c. The Rival Hudson yielded the greatest quantity, the New Pine the next, Columbus next, Hovey's next. According to the dimensions of the bed, and the amount of the crop given, the Rival Hudson must have yielded at the rate of 260 bushels per acre.

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The William's Favorite Apple.—The handsome appearance and good quality of this early variety, have made it a great favorite in some parts of New-England, but the high culture it requires will lessen its value for general cultivation, until orchardists learn to give more attention to their trees. S. W. Cole, of Boston, says, "When perfect it is very handsome and saleable. One cultivator in this vicinity has put a cart-load of manure around a tree yearly, and he has sometimes sold the fruit for five or six dollars a barrel."

Pear Blight.

. J. Downing, in a late number of his Horticulturist, after stating that the pear blight is caused by the extremes of heat and cold in our variable climate, says, "The remedy is to wind straw ropes around the stems and larger branches, and mulch the surface of the ground over the roots. A cultivator of our acquaintance, who lives in a blight district, and who made wry faces for years over the blight, has become a cheerful and happy man since he has practiced this simple method."

NEW PUBLICATIONS.

Lessons in Modern Farming; or Agriculture for Schools; containing Scientific Exercises for Recitation; and Elegant Extracts from Rural Literature, for Academic or Family Reading. By Rev. John L. Blake, D. D. New-York: M. H. Newman & Co.

This work is from the same pen as the "Farmer's Every-day Book," published a year ago, and which we are pleased to learn, has been well received by the public. The author seems to have a good understanding of the wants of our rural population, in regard to general education, and the kind of books best fitted to inspire a taste for agricultural pursuits. The volume under consideration is composed partly of original articles, and partly of selected ones. They are of a character well calculated to interest the rising generation of farmers, and to infuse more elevated ideas in regard to their vocation. The book is of a convenient form and size for the use of schools—containing upwards of 400 pages, 12 mo.—is neatly printed and well bound.

Agricultural Report of the Commissioner of Patents for 1849–50. We have lately received a copy of this document. It contains a large amount of valuable matter, well arranged. We should have been much interested with many of the articles, had we not read them before in the *Southern Cultivator* and the *Genesee Farmer*, which had been made the mediums for giving them to the public before the Report was issued.

A Treatise on the History and Management of Ornamental and Domestic Poultry. By Rev. E. S. Dixon; with large additions by J. J. Kerr; illustrated with original figures of Fowls. Philadelphia: E. H. Butler & Co.

Of the making of poultry-books there will probably be no end, at least so long as the "hen fever" continues. This is the fifth work on this subject which has been published in this country within the past and present year, besides the new editions of former American works of this character, and the importation to a considerable extent, of several of foreign origin. The work above mentioned purports to be a reprint of the highly popular work of Rev. Mr. Dixon, first published in London in 1848, "with additions" by Mr. Kerr. The preface opens thus: "In offering to the public Mr. Dixon's Treatise 'on Ornamental and Domestic Poultry,'" &c. But notwithstanding this, and the use of Mr. Dixon's title, the work contains, comparatively, but a small part of Mr. D.'s. It is, in reality, a *mixture* of selections from Mr. Dixon, with remarks of Mr. Kerr, and letters from the owners of fowls whose "portraits" are said to be given. But the descriptions of varieties do not agree with those of Mr. Dixon, even where Mr. D.'s arrangement is ostensibly followed. Thus Mr. Kerr represents the Hamburgh fowl as a *top-knot* variety, giving a corresponding cut—whereas Mr. Dixon applies the term only to a kind of fowls which never have this appendage. But we cannot here go into particulars—shall probably take another occasion for this purpose. So far as regards mechanical execution, the work is entitled to much praise—it is decidedly superior to any which has been got up in this country, especially in the style of the engravings, many of which are highly creditable to the artist.

The Old Red Sandstone; or New Walks in an Old Field. By Hugh Miller. Illustrated with numerous engravings. Boston: Gould & Lincoln.

We have received from Messrs. Gray & Sprague of this city, a copy of this work. It contains many important geological facts, presented in a very interesting light. The strange hypothesis of transmutation of species, styled by its advocates "progression," is thus humorously shown off by Mr. Miller: "The descendants of the *ourang-outang*, for instance, may be employed in some future age in writing treatises on Geology, in which they shall have to describe the remains of the *quadrumana* as belonging to an extinct order. Lamarck himself, when bearing home in triumph with him the skeleton of some huge salamander or crocodile of the Lias, might indulge, consistently with his theory, in the pleasing belief that he had possessed himself of the bones of his grandfather—a grandfather removed, of course, to a remote degree of consanguinity, by the introduction of a few hundred thousand *great-greats*. Never yet was there a fancy so wild and extravagant but there have been men bold enough to dignify it with the name of philosophy, and ingenious enough to find reasons for the propriety of the name."

Harper's New Monthly Magazine. This valuable Magazine has entered on its second year. The first number of the volume, (that for June,) commences with "Summer," by Thompson, beautifully and appropriately illustrated. It is issued promptly on the first day of each month. Each number contains 144 octavo pages. The number before us indicates that the work will continue to be, as it has been, one of the best literary periodicals published. Harper & Brothers, New-York.

Wild Inconsistency.—Dr. Lee remarks, in relation to the present forgetfulness of agriculture by the government, "To Washington, as a *General*, there is going up in the federal metropolis, a monument which will cost over a million, and be five hundred feet or more in height; but to Washington *the farmer*, nothing is done except to permit the once fine estate at Mount Vernon to grow up in briars, bushes and pines, a harbor for wild beasts. What with the ten millions a year expended on the *army*, and the nearly twenty millions given to *politicians*, it seems extraordinary that a nation of farmers cannot afford a few dollars necessary to make the estate of the great and good Washington an experimental or model farm."

Plan of a Dairy-House.

Editors of the Cultivator—Accompanying this, I send you a plan of a dairy-house, which, doubtless, may not suit the fancy of every dairyman, yet it is thought to embrace as many conveniences as can well be embodied in a building of ordinary dimensions.

The plan is arranged for cheese making, though it will be found equally convenient for butter making, by substituting the furniture necessary for butter making for that described in the plan.

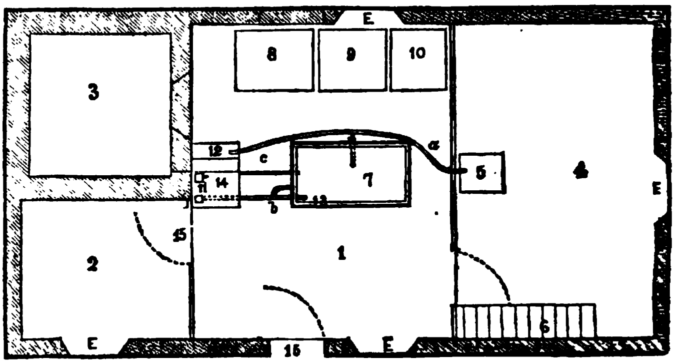
The building should consist of a cellar and one story above; the former, settled about three or four feet below the surface, provided with a drain, emptying if possible into the slop-tub in the cow barn. The wall of the cellar, and both stories, if convenient, should be of stone or brick, laid in lime mortar, and from 18 to 24 inches thick. The bottom should be of water-lime mortar, which will, when properly prepared, soon harden into a level smooth surface, quite imperishable, and be proof against water, and all rats and mice. The pipes, leading to and from the cisterns, &c., should be laid down before the floor is laid, and the mortar carefully fitted to them. The ice-house should be plastered with waterlime, and a little space left between the ice and bottom of the house, to allow the water a small space. The top and side walls of the dairy house should be finished with plaster, by which means a uniform temperature, indispensible to curing cheese well, is more easily secured. Size, 18 by 30 feet outside.

Explanation.—1. The room for making cheese in, 14 by 18. 2. Closet 10 by 10, provided with shelves, for storing all sorts of furniture.

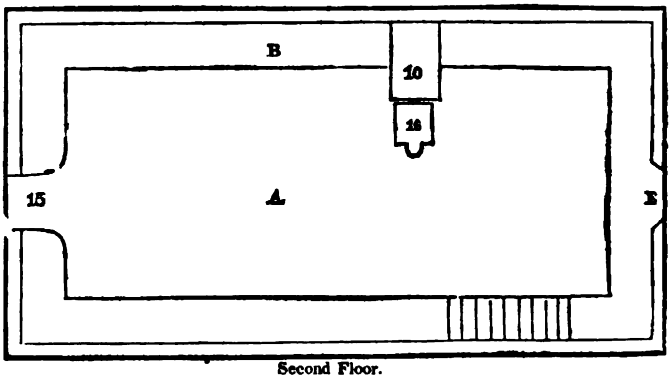
3. Ice-house, 10 by 10. This should be enclosed by double walls, and great care taken to make both perfectly air tight, and the space may be filled with sand, leached ashes, or almost any dry porous substance; but nothing is so good as air, provided it is not permitted to circulate in and out of the space, because air when not in motion is almost a non-conductor of heat; but since cold air is *heavier* than warm, if crevices are left near the bottom of the ice vault, the cold air contained in it, as soon as the temperature without is raised, flows out, and its place is supplied by warmer air passing in at the same crevices, and an equilibrium is soon restored between the temperature of the air without and within the ice-house, and the ice rapidly wastes away. For this reason the door should be double and open near the top of the vault, or it may have no door on the side and be filled and emptied through a trap door from the upper story. The lower floor must be high enough to draw water from it into the milk vat.

4. General store room and wood cellar, 11 by 18.

5. A stove or furnace of some kind, at which steam is generated for warming milk, heating water, &c. 6. Stairs to the cheese loft. 7. A tin cistern, large enough to contain as much milk as is to be set at once, surrounded by a wooden vat, leaving a space an inch wide at the sides, and nearly two under the bottom, for the introduction of water, either warm or cold, for heating or cooling milk. *a*. Lead pipe leading from steam generator to water in wooden vat, by which the milk is conveniently raised to any desired temperature. By means of the stops in the pipe, the steam may be let in to a water cistern (12) when not needed to heat the milk, by which hot water is always easily kept on hand for cleansing the various untensils. The end of the steam pipe should pass under the center of the cistern, and a board a foot square must be placed between it and the cistern to prevent heating the cistern too hot just when the steam is discharged. *b*. A pipe leading to the sink drain, by which both the whey and water are led off from the cistern, when the cheese is sufficiently scalded. The whey pipe should be large, not less than two inches, so that when the orifice is opened the whey will escape immediately, and thus prevent the curd from sticking together. To prevent the curd from escaping with the whey, a tin strainer of a peculiar form is inserted in the orifice. This strainer is a cylinder five inches in diameter, and as long as the vat is deep; this cylinder is perforated as full of fine holes as the strength of the metal will admit, and to the lower end of it is soldered a tin tube large enough to fit the orifice in the bottom of the vat. While the curd is setting, the orifice is stopped with a plug reaching the top of the vat, smaller at the upper end, and when the whey is to be let off, the tin strainer is slipped over the plug, and into the orifice, when the plug is removed, and the whey escapes; this may be done if the orifice is tapering, and the plug made to fit the lower



First Floor.



Second Floor.

part, and the cylinder the upper. *c*. Pipe leading cold water from the bottom of the ice-house to the wooden cistern, for the purpose of cooling the milk.

8. Cheese press.

9. Table for turning the cheese upon. This table should be about two inches lower than the press bed, and a wide board, upon small wheels, is placed upon the table, and the cheese placed upon it, after being pressed.

10. An elevation raised by cords, pullies, and weights, by which the cheese is elevated on the little car, to the loft, when, after being wheeled on the scales and weighed, it is run back, raised to any shelf, and wheeled around to any desired place. This saves all lifting, after leaving the press, till it is sold.

11. Pump or penstock.

12. Tub or cistern for heating water in, by steam.

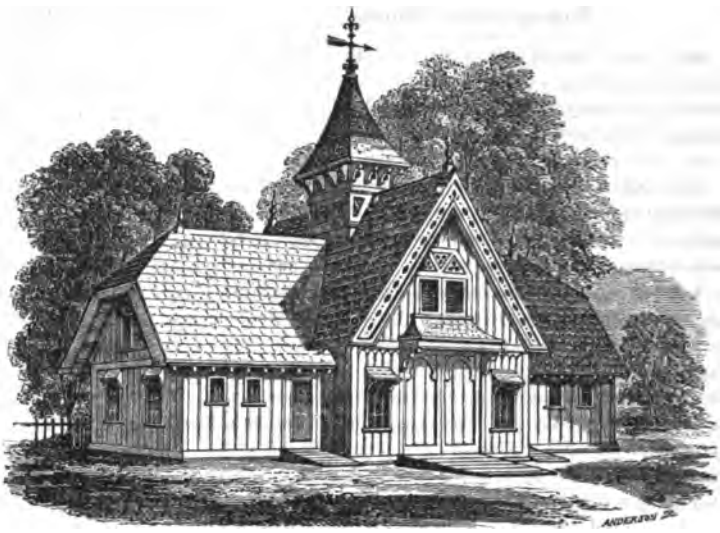
13. Wooden vat in which the tin vat is placed.

14. Sink provided with a spout, leading all slop, whey, &c., away.

15. Doors—*E*. Windows.

Plan of loft.—A. Second floor. B. Shelves, 30 inches wide, extending around the room. As many of them can be arranged as necessary to accommodate the cheese.

There is but one window, and this should be provided with blinds and darkened in warm weather, to guard against all insects. 16. Scales. GURDON EVANS. *DeRuyter, May* 24, 1851.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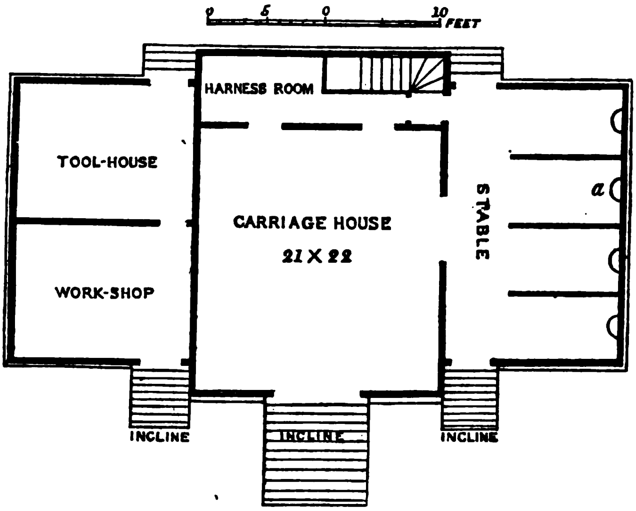
DESIGN FOR CARRIAGE HOUSE AND STABLE.



GROUND FLOOR.

Ornamental Carriage House and Stable.

The accompanying plan of a stable, designed for a gentleman on the Hudson, was first published in the *Horticulturist*, and was thus described by Mr. DOWNING:

This stable, is intended to produce a picturesque effect externally, and to contain internally all the convenience demanded in a building of this class. The central portion contains the carriage-house, with space for four vehicles, and a harness-room at the end of it. On one side of this is the stable—the stalls 5½ feet wide, with rack supplied with hay through wells, over each rack, in the floor of the hay-loft above. A flight of stairs leads from the end of the stable to the hay-loft above, and is placed here in order to prevent any dust from the hay-loft from finding its way into the carriage-house. On the side of the carriage-house are a tool-house and workshop. All the doors in this stable slide upon iron rollers running upon a piece of plain bar iron above the door. These iron rollers are attached firmly to the door by iron straps, and the door, being thus suspended, not only runs much more easily and freely than if the track were at the bottom, as is usually the case, but the track is not liable to get clogged by dust or other matters falling upon the floor. Besides this, a sliding door in a stable, when opened, gives the largest possible egress in a given space, and can never stand in the way to the injury of horses or carriages passing in or out on either side.

The high-roof of this building gives a good deal of room in the hay loft, and the ventilation on the top keeps this space cool and airy at all seasons. The whole is built of wood, the vertical boarding battened in the ordinary manner.

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PORK MAKING WITH CORN.—The unprofitableness of feeding to hogs uncooked corn, is shown by an experiment given in the Genesee Farmer, performed by J. E. Dodge of Wisconsin. Two pigs, a cross between the Byfield and Berkshire, were selected, both alike in every respect, except that one weighed 260 lbs. the other 247 lbs. The heaviest was fed with corn meal mixed with cold water, consumed 425 lbs. and gained 68 lbs. live weight. The other ate 308 lbs. of shelled corn, (with plenty of good water,) and gained only 33 lbs. in live weight. Thus it appears that 8 lb. 5 oz. of meal, and 11¼ lbs. of corn, were required for each pound of dressed pork. Had the meal been cooked with about three times its bulk of water, it would not have required half the amount used when uncooked.

The Great London Exhibition.

We make the following extracts from letters received by us from Mr. JOHNSON, the Agent from the State of New-York, to this exhibition. They will be read with interest. EDS.

LONDON, May 6, 1851.

DEAR SIR—Ere this reaches you, you will have seen the account of the opening of the Crystal Palace, which will answer as well as any description I can give. No pen, however, can do justice to the whole display. It has never, in all its parts, been before excelled, and probably never will be. The day was exceedingly fine, and the out-door display magnificent. Within, everything in complete order when Her Majesty arrived, and the representatives of every nation and government, I believe, except Naples, were present, to mingle together their shouts of applause at the opening of an Exhibition of the Industry of all.

The show is visited daily by multitudes. I have not yet had time to look over all that has been arranged; but have seen enough to be satisfied that it exceeds all the expectations I had formed, although they were, as I thought, very highly raised. England has done what we expected—presented her best things in absolute profusion. Agricultural implements and machinery, her engines and machinery for her factories, exceed in finish any thing I ever before saw. Whole establishments have been almost, if not quite, literally brought here.

In the hasty examination of the implements, I do not discover any new ones that we have not heard of—except an iron horse-rake, much like the spring-tooth rake of our country, which is a far more available implement than any heretofore in use—and some new plows of lighter make, and I think an improvement upon those heretofore made. I shall, as soon as practicable, begin with the different exhibitors, and go through their articles,—carefully noting each, and, as far as in my power, ascertaining its qualities, price, &c. &c.

In the manufacturing department—(woolen, cotton, linen, and silk,)—there is a wonderful display—not only in the English, but in the Foreign departments. France has showed herself alive to this great Exhibition, and if John Bull beats her, be must have the credit of doing what no other nation can approximate to. The French exhibition is not nearly arranged; but every day opens some new and wonderful display of fine goods, statuary, &c., which attracts multitudes, who stand and gaze and are lost in admiration at the ingenuity and skill of these Frenchmen. Austria, Prussia, Switzerland, Belgium, &c., have many very fine things. The United States, I am sorry to say, have not fulfilled our expectations, nor justified John Bull's fears, in the exhibition they have made. Not half the space alloted us has been occupied; and France and England are filling up the vacancies. We have, I think it is admitted generally, the finest piece of sculpture—"The Greek Slave," by POWERS. A dying Indian, made from American marble, by a young artist, his first effort—(P. STEPHENSON, Boston,) No. 467 on the Catalogue—is a masterly work, much admired, and the London Times, which says all the unkind things necessary of the United States show, admits it has merit. The best foreign artists here say it has *great* merit; and, so far as I have heard, they admit that the Greek Slave is the best statue exhibited.

Mr. RIDDLE, the U. S. Commissioner, has selected HORACE GREELEY, Esq., as Chairman of the American Judges. I will give the names of all the Judges as soon as they are announced by the British Commissioners.

I saw Col. REID, Chairman of the British Commissioners, to-day, who informed me that *any articles* from our country would be received at any time, and that he was very desirous our country should be better represented: as having travelled there, he knew that the Exhibition did not fairly represent us, or our progress in agriculture, manufactures, &c. I wish the collection of wheat in the straw in the Agricultural Society's Rooms could be sent here in good condition; and also samples of our hay and manure forks, shovels, spades, &c., of which there are a few, but very indifferent indeed. A show, too, of our manufactured goods should be made. The shawls from West Troy, broadcloths, &c., ought to be here.

I was at Windsor Castle yesterday, with a party of Americans, and was much gratified with the examination of the State apartments, splendid paintings, &c. We went through the Park, called at the Royal Garden at Frogmore, and saw Mr. INGRAHAM, the head gardener, to whom I had a letter of introduction. We received every attention; but had not time fully to make thorough examinations. Here are grapes in great profusion, ripe strawberries also, and everything in perfection, and worthy of the most critical examination. I shall visit there again soon, and am promised admission, through Gen. WEMYS, to visit and examine the stock of his Royal Highness Prince Albert, and the poultry establishment of Her Majesty, one of the most perfect, probably, in the world.

London, May 18, 1851.

On Wednesday I attended the weekly meeting of the Royal Agricultural Society, and heard two very interesting lectures from Prof. Way and Prof. Simonds, on the use of salt as a manure and for animals. Professor Way took the first part, and gave a brief history of the facts recorded as to salt, and of its chemical qualities, and the manner of its action, which he said was an indirect one, not direct. Prof. Simonds took the latter part of the subject, which he very clearly illustrated, showing the advantages of salt for the use of animals, and concluding as a general rule, it would be well to give free access to it, rather than give it at intervals. As a lecturer, Prof. S. is much the most interesting—as he is a ready speaker, and explains with great clearness his subject. Prof. Way is rather hesitating in his manner, but clear in the illustration of his subject, and very careful in stating his propositions and conclusions. The lectures were followed by a discussion, in which Col. Challoner, Mr. Fisher Hobbs, Mr. Mechi, Mr. Huxtable and others, took part—resulting, as do similar discussions in our own country, in a great variety of opinions in regard to the use of salt, directly contradictory to each other. The meeting was a very interesting one, lasting about two hours. Earl Ducie and several other distinguished landlords were present.

The judges on the part of the United States were appointed on Monday, and several of the committees, or jurors as they are called, are at work daily. I am on the committee on agricultural implements; but the English judges had a trial of their implements, and one or two Belgian ones, *before* the exhibition opened—and I am informed have made up their awards. Mr. Pusey is chairman. I informed him that we should insist upon having our implements tried as soon as we had persons on the ground to attend to them. He has not called his committee together yet, but informed me that he was in favor of testing our implements; but I should fear that the decisions already made might be embarrassing.

The gentlemen selected as the English and foreign jurors, are generally very intelligent, and so far as I have been made acquainted with them, are disposed to do even justice to all. The English have a decided advantage, as their jurors have been selected from those best informed on the subjects submitted to them, while the other nations have to depend upon gentlemen present, who may not, in all cases, be best qualified for the examination of the subjects on which they are called to judge. It is expected that it will take the jurors from four to six weeks to complete their examinations, though I hope it may be finished sooner. Every facility, so far as I can discover, is most readily afforded by the British Commissioners, to have a fair hearing on every matter submitted to them.

I went to day with one of the jury on articles used for food, through all the grain divisions, and we came to the conclusion that the best samples of wheat and corn exhibited, were in the United States exhibition. None, except the wheat from Australia, was equal to some of our samples. The Australian wheat, the same kind precisely as that we have at the Rooms, and which Mr. Thompson of Long Island, raises, was very fine indeed.

The Canadian wheat was very good in some instances, though most of it was of mixed varieties, which detracts from its appearance. A sample grown in England, called the Prolific, I believe, is marked as weighing 67½ lbs. per bushel, and was very fine. The yield of Mr. Hotchkiss, of Lewiston, in our state, 68¼ bushels per acre, exceeds in quantity any on exhibition, and the sample, as you know, is a very fair one. Mr. Belt of Westchester county, has some very choice specimens of grain. A sample of White Spring-wheat, excels any I have before seen, and his specimens of Winter-wheat, White-Flint, Soules and Mediterranean, are remarkably good. In barley and oats I think the Scotch and English excel us. Their grain is much heavier than ours, and the malsters say that our barley does not malt as well as theirs. How this is I do not know. Our samples of buckwheat are better than any other which I saw. I have not had an opportunity of examining very critically, the flour as yet; but I think some of ours is equal to any I ever saw, and such is the opinion of an intelligent Scotchman from Edinburgh, who has charge of a stand filled with the products of Scotland.

The Highland and Agricultural Society of Scotland have a very extensive show. I should judge that they had removed their entire Museum here. They have wax preparations of potatoes, turneps, peas, &c., that are very life-lide, and their exhibition of grain in the ear is very extensive, and is deserving, as it receives, much attention. Samples of forty day maize, ripened in England, are on exhibition, and appear very well. The ears not as long as ours, but the corn is perfectly ripened—the husks exhibited showing that it reached its full maturity. In grass seeds the exhibition is very extensive, and many of the samples are unusually excellent. Millet, rape, and other seeds, are on exhibition. From the East-Indies, Australia, &c., there are large contributions of their products, some of which are worthy of especial notice, which doubtless they will receive. I regret that we have not a more extended contribution in this department, as I am sure we could have added largely to our exhibition, and have satisfied all that we can raise of the first quality the best of grains used for the sustenance of man or beast.

Last Monday the Smithfield market had the finest lot of cattle ever exhibited, except at the Christmas show, and nearly equal to that. It was a sight that a lover of good beef and mutton would go a long way to see. The Scotch were ahead of all. The more I see of the Galloways and West-Highlanders, the better I am convinced that there are no cattle in this country that compares with them for beef. The Short-horns, Devons and Herefords, are remarkably fine; all the cattle are better fattened than I have ever before seen in this market, or in any other.

I saw a day or two since, at Sion House, and at Kew also, the "Victoria Regia," and it is a sight worth seeing, truly. The leaves of the plant at Sion House were, I should judge, nearly three feet in diameter, and would, I doubt not, as represented in the plates we have seen, support a child four or five years old. The water is kept in agitation by a small water-wheel on top of the water, supplied by a lead pipe, which conducts the water to the tank. The plant has to be *cheated*, they say, by this operation, believing it is in its native waters, which are constantly agitated.

Sion House, one of the Duke of Northumberland's seats, is near Brentford, famous for John Gilpin's race, and the old town looks as if John might run again, and with equal eclat. The house and grounds are thrown open to the public, and tickets are procured of the foreign ministers, or at book-stores, which allow free access. There are about 300 acres connected with the gardens and parks. The paintings in the house are from the old masters, comprising portraits of Charles the First and his family, Charles the Second, the early Dukes of Northumberland, &c. and are, many of them, of rare excellence. These paintings occupy the walls of three large rooms. The library is 120 feet long, facing the lawn and park, which extend to the Thames, and with a far reaching view beyond, over the country, studded with country-seats, &c. It is one of the finest views of the kind I have yet seen. The drawing room, dining room, and vestibule, are richly furnished, and everything that wealth can supply to a refined taste, seems here to find a place. The duke visits here at this season three days in the week; the rest of the time in town. He does not occupy it more than six weeks in the year, I am told—the rest of the time being spent in the town, or at his splendid estate in the interior of the kingdom.

The garden is filled with every variety of plant, flower, and shrub that can contribute to its beauty. His greenhouse of palms and tropical plants, is very rich in its collection and arrangement. He has a fine breed of cattle, and choice sheep, grazing on his pastures on the banks of the Thames. His stock mostly Short-horns, interspersed with Alderney or Jersey cows for milk. The sheep are South Downs and Leicesters.

Kew, a royal residence, is also thrown open to the public so far as the grounds and mansion are concerned. The Palm-house here is of glass, somewhat in the style of the Crystal Palace. Here almost every variety of these trees are to be found. The bread tree bearing its fruit —the India-rubber tree, &c., are here to be seen. This house is warmed, I understand, by twelve furnaces, and the tall chimney which conducts the smoke away, stands, I should think, from 40 to 60 rods distant. These grounds are handsomely laid out, and the green-houses are well filled. The "Victoria Regia" is not as large as at Sion House, but still outvies all our ideas of the Water lilies. Beds of Rhododendrons are scattered through the Kew grounds, which, when in bloom, must produce a splendid effect. The museum of curiosities here, established by Sir W. J. Hooker, who was present when we visited it, is a very interesting collection. We went to Richmond Hill, and I saw from the coffee-room of the Star and Garter, the splendid view which so captivates the English, and I doubt not everybody else who sees it. The day was fine, and the country seldom seen to better advantage than when we were there.

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Pulling out Stumps.

Eds. Cultivator—You know many men when they do any thing which they think is important, like to let it be known; therefore I will tell you of a large stump operation I have lately gone through with. I hired Mr. James Haire, from Yates, county with his stump machine, three hands and one yoke of oxen, at six dollars and eighty-eight cents per day, and have had about 800 oak and black walnut stumps pulled. They were mostly very large—some of them brought up the earth from 15 to 17 feet square, on the surface, and from five to six feet deep in the center, and three to four feet deep at the outsides. They were drawn by a screw. The screw went up through a frame, and the nut on the top was in a horizontal wheel of wood, which was turned by horses or oxen, drawing up a slack rope of three hundred feet; thus raising the screw, which was attached to the stump by a large chain and clevis to the screw, and that raised all we tried but two. It certainly has the greatest power of anything I ever saw; if the chain is strong enough, two yoke of oxen, or two pair of strong and true horses, I think will raise any stump. My stumps had been cut from 10 to 14 years, yet some of them came very hard and brought an immense quantity of earth. Where the small *roots were* decayed, even if the tap root drew up five to six feet and over, from below the surface, they brought up little earth, and the work was done in a short time, but those which brought much earth, took a great deal of labor to get the clay cleared off them, while the stump was suspended, to get the earth back into the hole. Besides, no number of teams could have turned them over, if let down with such a mass of earth. After they were cleaned I find it takes six strong horses to draw some of the largest on a stone-boat. Now for the cost, as many of your readers may want to know. I paid Mr. Haire $114.50; my own team and one man, were worth about $25—making $139.50, besides board and keep of Mr. Haire's team. But the cost would have been much more, had we not got out some 200 or more by the oxen and horses without the aid of the machine.

If any farmer wishes to undertake such a job, I can safely recommend Mr. Haire as a sober, industrious go-ahead man, and one who, I believe, understands the business thoroughly. John Johnston. *Near Geneva, May* 23, 1851.

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Farm Fences.

Eds. Cultivator.—The subject of farm fences is one which every farmer should be interested in. Every farmer knows well that a good fence is what he likes to see around his fields, and those of his neighbors. There are but few of us that have not suffered in years past by poor fences and breachy cattle—*of course*. As to the kind of fence to be buit, all depends upon circumstances and location. Any kind of fence looks well, when well built and in good repair. Probably the most substantial and lasting of all farm fences, are built of stone. On most farms in New-England, more or less stone fence can be made.

But the manner in which these fences are often built, is another consideration. We often see single walls laid up with only one tier of stone, and where they have been built for years they often have a zigzag or worm fence appearance, and how they stand at all, is a question. Often, where such fences are made, not one half of the stone are taken from the field, which is bad economy, to say nothing of the fence. Farmers should remember that when a field is cleared thoroughly of surplus stones, and the stones laid up into good substantial walls, they have gained two important points. First, they have cleared the land for good cultivation, and second, they have a good fence, which, if well laid up, will last a lifetime. Walls four and five feet wide at the bottom, and as many feet high, with cap stones on top, projecting over three or four inches on each side, will turn sheep pretty effectually.

In many parts of Connecticut, old rail fences may be seen three or four feet high, while the stones are so thick that you may travel on them from one field to another. I consider it the most miserable and shiftless economy in the way of fences and cultivation that the Connecticut farmer has yet accomplished. The most durable rail-fence, to my mind, is the old "Virginia worm fence." When this fence is well laid up, six or seven rails high, with long poles or riders staked on top, hardly any wind will level it to the ground. You cannot work up to this fence quite so close, as to a straight fence. But for pasturing or mowing, it takes up but little or no more ground than the post fence. The posts of the straight fence which I built ten and eleven years ago, are now rotting off, and the fence is falling down. Some farmers say that fence posts will last double the time by setting the posts top-end down, but having never tried it, or never seen it tried, I cannot say as to the fact.

Post and board fence is built by many farmers, and it makes a much neater fence than rails, and is often quite as cheap, and much lighter in construction. Wire fence is now talked of, and some fence of this kind has been built, and if it be lasting, and the weather does not affect the wire, I think it will come into general use, especially on the western prairies, where timber is scarce. I have been told that a cheap composition of coal-tar laid over the wires, will prevent rust or any action of weather on the wire. Where posts can be made of stone or iron, and the expense will admit of it, this fence must be lasting. A prairie farm fenced with wire, would make a grand appearance, as at a short distance nothing would be visible but the posts. But some time must elapse before this fence can be thoroughly tried as to durability. L. Durand. *Derby, Ct., March* 12, 1851.

Sheltering Manure.

Eds. Cultivator—Within a year or two past I have met with several articles in your paper, recommending the practice of keeping manure under cover, in order that it may be protected from the action of the sun, wind and rain.

Considering the reasoning on the subject good, I concluded to adopt the practice, which I accordingly did, during the past winter, but on hauling out my manure this spring, I found it not a little "fire fanged," and I observe that several of my brother farmers have made use of your paper of late as a vehicle for the same complaint. Now this won't do. We can't afford to have the "gold dust" of our farms thus diminished in bulk, and deprived of half its efficacy.

I am still of the opinion that it is desirable that dung should be kept under cover, but unless some plan can be devised to prevent it from heating when thus housed, we must return to the "old way" of our forefathers, and suffer it to lie scattered about the barn-yard, for I do not believe that sun-beams, rain-drops, and north-westers, will do so much harm to it as the violent heat engendered by this close confinement.

Who will help us out of our trouble? Were I a chemist, I might discover a remedy, but as I am not, I would request some of the scientific contributors to your columns, to come to our aid in this dilemma. Would a plentiful and frequent admixture of gypsum, which is recommended to prevent the escape of ammonia, avail anything as a preventive against the evil of which I have been speaking? W. C. A., *Tioga, N. Y.*

The fertilizing principle of common yard or stable manure, may be wasted in various ways,—as by the soak or washing of rains, by being frozen and thawed during exposure to the air, by being alternately wet and dried, by *violent* fermentation, &c. Now the great object, of course, with this article, is to keep it in the most perfect state, or in a situation where it will be subject to least loss. The best situation is probably a cellar. Here the liquid and solid parts go together, and thus, with the moisture of the mass, and the low temperature in which it is kept, there is not much liability of a wasting heat taking place, except with the drier kinds of manure, as the excrements of the horse and sheep. But the temperature of the manure-heap under any circumstances, should be watched, and if it rises so high as to *consume* the substance, or give rise to ammoniacal fumes, it should be checked by an addition of more water. It is very easy to add this, especially in a cellar, by means of spouts from a pump or aqueduct. For an answer to the query in regard to mixing plaster with manure, see another article in this number. Eds.

Erection of Fences.

Eds. Cultivator—In the January number of The Cultivator, there is a communication in reference to the posts of wire fences heaving out by the frost. I have some wet land through which I made a board fence the last season; it is as firm as the day it was put up. Near the bottom of the posts, bore a two inch auger hole, thro' which put a pin two feet long at right angles to the way the fence runs. You can fill the post-hole up to the pin with earth if you wish; fill up the rest with stones. Around some of the posts, I put some six inches of earth at the top of the ground, as an experiment. They stand well enough, except the earth filters down through the stones. I have had fence made as above to prevent its being taken away by the floods, when I lived on Muncy Creek. Frequently the water was over some of it from three to ten feet. It has stood in this way for many years, and will stand till it rots off.

If there is much of a current, put a large stone at the bottom of the post, on the upper side, and one at the top on the lower side of the post; this will generally keep the fence right; but where there is back water that you have to contend against, the anchoring of itself will answer. When we adopted this plan, there was an end to resetting and fishing up fences, after a freshet in the river and creek. I think it will answer in spouty land, but cannot tell, having only one year's experience. So far, it works as well as I expected. It *will not* do to put earth directly on top of the pin, if you do it will rise till you come to the stones. B. M. E. *Mansfield Farm, Wolf township, Lycoming county, Pa.*

Time for Cutting Timber.

Eds. Cultivator—It is a matter of great consequence to the agricultural interest, to ascertain the best season to cut timber to insure its durability. On this subject, there has been a diversity of opinion, and after 40 years experience I have changed my own opinion. I early thought the best time to fell timber was the winter, before the sap began to move in the spring. I adopted this opinion, because, at this season, the process of vegetation in most matured, and the softer parts of the wood most hardened. There was one fact that confirmed me still more. I often observed that twigs and small limbs, cut in winter, were more durable than those cut in summer. Those cut in winter soon dry up and harden by the warm weather of the spring, and will endure two or three years without material decay. But twigs cut in the heat of summer, when the tree is full of sap, and the leaf of fresh and vigorous growth, do not readily part with their sap. The fervent heat of summer causes an immediate commencement of the work of decay—the bard turns black, is soon covered with a small fungus; and by autumn, the decay is so far complete that the twigs become very brittle, and break by the smallest force.

Seeing these facts, I was led to conclude, that the winter was the most favorable season for cutting timber.

But the two cases are not parallel, and I overlooked some facts that ought to be taken into the account. The reasoning applied to the cutting of the twigs, will not apply to the cutting of the trunks. The trunks cut in winter and early spring, do not dry so readily as the twigs on the approach of hot weather, especially if left unsplit; but on the contrary the sap begins to flow, and very often new shoots put forth on the approach of summer, showing that the trunk is very much in the same state as it would have been if left standing. In this state the extreme heat of summer causes the commencement of speedy decay. This same timber if it had been suffered to stand, till the vigor of the summers heat began to abate, say till the last of August or first of September, would have had the advantage of a partial maturity. This maturity would still progress for a while after the tree was felled, and become perfected by the usual time of the falling of the leaf. If the timber were split or hewed at the time it was felled, it would be parting with its sap and drying up during the autumn, so that there would be but little tendency to decay in the first season; and before the approach of the next summer it would become so dry and well seasoned, as not to be subject to decay from its own sap and internal moisture.

The decay of timber is owing to the combined influence of heat and moisture, and the rapidity of the decay is in proportion to the degree of heat. A wet stick in winter and one kept perfectly dry in summer suffer no material decay.

I was however led to a change of opinion, as to the best time of felling timber, not by the foregoing train of reasoning, but by observing that there was a material difference in the durability of my fences, made of the same material, when cut at different seasons of the year.

I have had land cleared at almost every season of the year, and fenced by materials on the land; and sometimes not of the most durable kinds of timber. After some years of observation, I found contrary to my expectations, that those fences that were cut in winter and spring, began to fail some years sooner than those that were cut in the latter part of summer. The difference was most visible in the most perishable kinds of timber, such as elm, poplar, and basswood. I then made a diligent search for the cause of this difference, and came to the conclusion before stated. If my reasoning is incorrect, I would be much obliged to any gentleman that will give a more satisfactory solution. It is desirable to know, not only facts, but the principles on which they are founded. E. D. A.

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Remarkable Swine.

The *Maine Farmer* gives the weight of two uncommonly heavy hogs. One of them was fattened by J. W. SAWTELLE, of Norridgewock, Me., and was killed on the 24th April last. His age is said to have been just two years, and his dressed weight *nine hundred and thirty pounds*, exclusive of rough lard, which weighed forty pounds. The other was fattened by JOHN SMILEY, of Augusta, Me., and was killed on the 12th of April,—"being just ten months old to a day," and its dressed weight was *five hundred and six pounds*. Mr. SMILEY gives some facts in regard to the mode of fattening this pig, which are deserving attention, and we take the following from the account in the paper referred to:

The amount of food consumed in fourteen weeks, was seventeen bushels and twelve quarts of corn; and the gain in weight was two hundred and ninety-one pounds, being a small fraction less than three pounds per day on an average. Sometime between February 1st and February 15th, Mr. Smiley fed six quarts of molasses to his pig with his food. This destroyed his appetite, and for eight days following he ate but very little—perhaps not more than a pint a day—and in consequence, the gain for two weeks was only twelve pounds. From the 4th of December to the 1st of February, his food was exclusively boiled corn. After that, his food was principally in the form of meal. For the last two months he ate about two quarts of charcoal daily. Mr. Smiley has been careful in weighing the pig and measuring his food, and he holds himself ready to prove his statements by credible witnesses. He is of opinion that this pig, in four months, gained on an average, one hundred pounds of "round hog" per month. The following is Mr. Smiley's statement of the live weight, gain, and amount of food consumed by his pig:

	Live weight.	Gain.	Amount of food.
Jan. 4,	278 pounds.		
Jan. 18,	330 "	52 pounds.	73 q'ts corn.
Feb. 1,	382 "	52 "	71 "
Feb. 15,	469 "	87 "	119 "
March 1,	481 "	12 "	36 "
March 29,	557 "	76 "	196 "
April 12,	569 "	12 "	61 "

The pig was not fed for about thirty-six hours before he was slaughtered. The difference between the live and dead weight is exhibited below:

Dressed pig,	506 pounds
Rough fat, heart and midriff,	23 "
Blood,	13 "
Hair and intestines,	27 "
Live weight,	569 "

The clear pork weighed 262 pounds; the hams and shoulders 101; and the feet and upper part of the head, 21 pounds.

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Ayrshire Cattle in Berkshire County, Mass.

The report of the North Stockbridge Farmers' Club, published in the Pittsfield *Culturist*, speaks of the introduction of the Ayrshires into that section as follows:

The Ayrshires have done well here. They are all that the most sanguine breeders could reasonably expect or hope for. Several years ago, we had among us an Ayrshire bull, imported by the State Agricultural Society. His *stock* has proved good, and as milkers, much better than the natives. Five years ago, S. G. WARD, Esq., then of North Stockbridge, now resident in Boston, imported an Ayrshire bull and heifer, carefully selected from the finest and choicest of that family. To the intelligence, disinterestedness, liberality and enterprise of Mr. WARD, the farmers of North Stockbridge and Lenox are under obligations, which, though adequately appreciated, can never be fully discharged. We regret, most heartily, that he was constrained to withdraw from an occupation in which his head, his heart and his hands were actively employed with so much usefulness to the farmers in his neighborhood. Of the superiority of Mr. WARD's stock, there is no doubt. At our show of cattle at the Greenwood Farm in Lenox, where the best old and young were brought together and compared, the appearance of those derived from this stock evinced their decided superiority. Some allowance must always be made for the greater pains taken with a breed from which it is proposed to propagate, yet, there are points and marks of excellence, which good keeping cannot produce, nor bad keeping efface in a single generation—points which are apparent and manifest—good qalities which are lost rather by degeneration than temporary omission of due care,—which are of and in the breed, and disappear only with its change. The valuable qualities and characteristic points of the Ayrshire were prominent in the descendants from Mr. **Ward**'s importation. The great object of your Committee was to ascertain as well as could be done, the merits of the several breeds.

Mr. **Daniel Barnes**, who has on his farm fine blood Ayrshires from Mr. **Ward**'s stock, exhibited four two years-olds, of the half-blood, of great excellence. If they were fair average specimens of the cross, we feel entirely safe in recommending it to the special attention of breeders of fine cattle. Mr. **Richard H. Walker**, exhibited eight yearlings, all with more or less of Ayrshire blood, which attracted by their good points, the attention of your committee, and every one upon the grounds.

The conclusion to which your committee were brought, by their inspection of the stock upon the ground, is, that as milkers and feeders the Ayrshires are worthy the attention of graziers and dairymen, and are suited to our soil and climate.

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The Great Exhibition—English Agriculture.

Since the receipt of Mr. **Johnson**'s letters of the 6th and 16th of May, (which are given on other pages of this number,) we have received the following, which we are happy to lay before our readers:

London, May 27, 1851.

Editors Cultivator—Since my last, the exhibition has been full of interest, and the people come up in great numbers; and its success, in a money point of view, seems no longer doubtful,—though the result of yesterday's receipts, from the first day of shilling tickets, has not been as encouraging as was expected. To pay the expenses of the Exhibition and purchase the building, would require £300,000. Of this sum £65,000 was raised by subscription,—£65,486 have been received for season tickets, and up to Saturday night last, upwards of £40,000 received at the door for single tickets—making upwards of £170,000 realized in three weeks. Should the receipts average hereafter £1,500 per day, it will pay the £300,000, and leave a surplus for other purposes.

The goods are not fully arranged—some of the departments not yet completed. The Russian goods arrived last week, and are being arranged; and several other departments are completing their arrangements. Some few additional articles are arriving from the United States, and our exhibition is attracting more interest. The grain reapers, plows, &c., and the machinery, are being examined with interest. The grain reaper of McCormick attracts much attention, and one person could be constantly employed in answering inquiries in regard to it. An English farmer and member of Parlirment, said to me a few days since, on my explaining the reaper to him, that if it succeeded here as it had done in America, the cost of the whole exhibition would be amply repaid by the introduction of such an implement into Great Britain.

I took a ride, a few days since, to a farm in Surry, about 18 miles from town, owned by Mr. Combe, a large brewer of the town, and a partner in the firm of Combe, Delafield & Co. Mr. Delafield is a relative of the respected President of our Society. He has a fine herd of Short-horns and is to have a sale of about 40 head on the 10th of June, by Mr. H. Strafford. Mr. C. has a farm of 800 acres, most of it freehold. It is clay soil mostly and very moist, and has required much expense in drainage—at the rate of about £7 per acre. It is now, however, in good condition, and supports a large stock of cattle and sheep. When Mr. Combe first introduced Short-horns upon his farm, it was said he could not succeed; but the result has proved that Short-horns do well. He has 92 head of cattle. His overseer, Mr. John Giles, is a capital man, and the stock are in fine condition, and many are very choice animals. He has strains of Mr. Bates', Lord Ducie's, Earl Spencer's and Mr. Booth's stocks, as well as other distinguished breeders. He is breeding for a medium sized animal, and has some animals that are not easily excelled. Some of his heifers are, in my judgment, equal to any I have seen brought over to America, and would do no discredit to any breeder, and I think will probably be sold at fair prices.

He has 1050 sheep fattening on pasture and turneps. They are Hampshire Downs, crossed with South Downs, and Cotswolds crossed with South Downs. He gets about 10 shillings ($2.50) per head advance on his sheep, besides the fleece averages 6s., which pays very well. The farm is more profitable for grass than grain, though a considerable breadth is kept in grain yearly.

The farm buildings are admirably arranged, with all that neatness and completeness of arrangement, which is so important in a large farm. The stables and yards for the cattle, sheep, and swine, seem almost perfect, and the dairy cows have a most comfortable and convenient building, where every facility is had to make work light. Water is supplied in the manger to every cow, the troughs or mangers being of iron,—the floor of brick, and an iron gutter in rear of the cows to carry off the urine. A finer show of cows I have never seen than 32 Short-horns in this stable, put up for milking. Mr. Combe has several cows that are very large milkers. I design to attend his sale of stock—as it is the first that is to come off in this part of the kingdom.

Mr. Combe keeps 20 horses for his farm work—four large sized dray horses for drawing manure from town, and taking down sheep, cattle, &c. to market; the others lighter animals, more like ours than we often see here, though I was informed by Mr. C.'s overseer that the lighter horses are found to be much the most profitable for farm work, and are coming into use to a considerable extent.

The neatness with which farms are managed here, strikes an American with surprise. Everything is attended to in time, on a good farm; the plowing well done; the ground in all respects well prepared; the seed drilled in, generally, (and I think this system is gaining,) and when the weeds appear, they are carefully eradicated, giving the grain the full benefit of the nutriment in the soil—which properly belongs to it. Garret's horse hoe performs among the drilled grain, the work formerly performed by old men, women, and children. It is a capital implement, and I have seen it at work here, and can testify to its admirable adaptation to the purposes for which it is used. It might be somewhat simplified, but as it is, I conceive it a very valuable implement for the farmer.

The hauling work on the farm here, is performed with carts mainly, instead of wagons, as with us. The old fashioned carts with broad wheels, the felloes six to eight inches wide, and with heavy awkward thills and boxes, are a very cumbersome vehicle, but the wagons being no better, the former have long been used in preference. The style of carts which are now being constructed is much better. They are much lighter, better arranged, cost less, and with them much more work can be done. They are generally of what is called, I believe, the Scotch pattern, many of the best having come from Scotland. There are some very excellent ones on exhibition at the Palace, and but few if any of the real old ones are to be found except on the farms in the country. They are certainly here preferable to wagons. Whether in our country they would be equally advantageous, at present, may perhaps be questioned, though I have little doubt, that if more frequently used the labors of our farmers would be much lightened as well as the expense diminished.

Mr. C. estimates his farm at £60 per acre. He has no tithes, and the taxes of all descriptions amount to about $2.50 per acre. They manure very high here—and prepared manure, guano, lime, bone-dust, phosphate of lime, &c., are very extensively used, and with great profit. Much complaint exists as to hard times among the farming class, but they appear to be doing as much as at any period to keep up their farms, and the style of farming operations is certainly improved from what it was when I was here in '46.

The "Banner Wheat" a Misnomer.

We have of late years seen frequent accounts of the success which has attended the cultivation in Maine, of a variety of winter wheat called there, the "Banner Wheat." Dr. Holmes, in a late number of the *Maine Farmer*, shows that this wheat is the "Kloss's White Blue-Stem," which originated in Pennsylvania. It appears that the first account of this wheat was given to Mr. Ellsworth, then Commissioner of Patents, by Hon. John Snyder, who in 1843, sent Mr. Ellsworth a bushel of the wheat for distribution. He says—"The bushel of wheat I have sent you is the product of my county—Union—Pennsylvania. Its origin is briefly this: My neighbor, Christian Kloss, saw in his field of blue stem wheat, a single top-proud head; he was struck with the contrast between it and the wheat of the whole field, this being the only white head in it, and much the largest. At harvest time he secured the head and seeded it in his garden the coming fall; I do not recollect the time, perhaps six years since—(1837.) He divided the next years' produce among his neighbors, and last fall there were one thousand bushels of this seed sown; one farmer had four hundred bushels. It is called *Kloss's White Blue-Stem.*"

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Striking illustration.—At the Agricultural Convention held in Boston in March last, the presiding officer, Hon. M. P. Wilder, in the course of an able speech showing the advantage of improving agriculture, gave the following example: "We have 150,000 cows in this Commonwealth. Suppose science enable these, or improved breeds, to yield *one* additional quart of milk per day; this, at three cents per quart, would increase the productive capital of the State $4,500 per day, or $1,642,500 per year; or if two quarts per day, a gain of more than *three million dollars* annually."

ANSWERS TO INQUIRIES.

Tan Bark.—S. B., Edgefield, S. C. Tan bark contains matter which is valuable as a manure, but while it is fresh, it also contains so much acid that it is injurious to vegetation. It must be thoroughly decomposed before it can be used on any crop to advantage. The best way to prepare it is to mix it in a heap with strong wood ashes, or a solution of potash. The alkali will destroy the acid and cause the mass to heat, which will bring the food of plants into a soluble state.

Cows calving in the day time.—D. B. K., Plainfield, N. J. The custom to which you allude, as prevailing in Holland, in regard to leaving off milking pregnant cows on a particular day, in order to insure their calving in the day time,—has sometimes been adopted in this country. We have known some instances of cows being tried by it, but the result did not support the theory. We cannot see why the particular day or hour on which a cow is milked for the last time, should cause her to calve in the day time, any more than in the night.

Binding the volumes of the Cultivator.—"An Old Subscriber," Hartford. We can have the volumes of The Cultivator bound at twenty-five cents per volume; but in many instances it is inconvenient for subscribers to send them without incurring the expense of express charges, which are not less than twenty-five cents, each way, for any package.

Mowing Machines.—"A Subscriber," Champlain, N. Y. Ketchum's mowing machine is said to work well in grass that stands up fairly and is not thick at bottom. Fine, matted grasses are said to choke the machine. We have seen it used in a light growth of clover, where it worked tolerably well. We do not know the price of the machine. Address S. Ketchum, Buffalo. E. J. Burral, of Geneva, N. Y., has a machine of this kind, but we have not seen it operate, and do not know the price.

Berkshire Pigs.—S. G. S., Gravesend, L. I. We know of no stock of this breed for sale, except that advertised in our June number, by Mr. Simmons, of Yonkers. We noticed that Col. P. R. Paulding, of Tarrytown, exhibited a good Berkshire boar at the show of the Westchester county Ag. Society, last fall.

Foul in the Foot, or Hoof-ail.—S. C., Stillwater. This disease in cattle is not *identical* with foot-rot in sheep. At least some attempts made by a Swiss veterinarian, by inoculating sheep with the virus of hoof-ail, produced no effect. Hoof-ail will, however, generally yield to similar treatment as is best for foot-rot. When the animal is first attacked, the foot should be cleaned with soapsuds. Blue vitriol (sulphate of copper) either in powder or solution, (the latter preferable,) should then be applied to the affected part. If the disease is taken in season, one application will generally effect a cure. Other substances are sometimes used—as corrosive sublimate (chloride of mercury,) and butyr of antimony. The former of these is, however, a strong poison, and it is hardly safe to use it unless the animal is kept in the barn for several days.

Turneps.—W. C. The English turnep, of several varieties, may be sown as late as the first of August, with success. The white Norfolk is a productive kind, but will not keep as well as the ruta-baga.

NOTES FOR THE MONTH.

Postage of The Cultivator under the New Law.—To any post-ffice

Within 50 miles of Albany,	5 cents a year.
Between 50 and 300 miles from Albany,	10 cents a year.
Between 300 and 1,000 miles,	15 cents a year.
Between 1,000 and 2,000 miles,	20 cents a year.
Between 2,000 and 4,000 miles,	25 cents a year.

The above are the rates as fixed by the new law, which goes into operation on the first of July, 1851.

Acknowledgments.—Communications have been received, during the past month, from D. B. K., S. W. Johnson, John Johnston, A Subscriber, Wm. Weeden, An old Subscriber, G. Evans, Prof. Norton, G. W. Edmundson, Alex. Rives, F. Holbrook, A Constant Reader.

Books, Pamphlets, &c. have been received as follows: Report of the Commissioner of the Patent Office for 1849, Part II, Agriculture, from Hon. T. Ewbank, Commissioner.——Official Catalogue of the Great Exhibition of the works of Industry of all Nations, from B. P. Johnson, Esq.——Dixon and Kerr's Ornamental and Domestic Poultry, from E. H. Butler & Co., publishers, Philadelphia.——Proceedings of the Clinton Co. Ag. Society at its annual meeting, with its Premium List for 1851, from J. Battey and W. Keese.——The Old Red Sandstone, or New Walks in an Old Field, by Hugh Miller, author of Foot-prints of the Creator, &c., from Gray & Sprague, booksellers, Albany.——Proceedings of the Am. Pomological Congress at Cincinnati, from Prof. Mather, Sec. Ohio Board of Agriculture.——Farmer's Guide, Part 17, from L. Scott & Co., publishers, New-York.——Annual Report of the Regents of the University, from Dr. T. R. Beck, Sec.

Phosphate of Lime.—Prof. Emmons has had a quantity of this article, from the quarry at Crown Point, prepared for use. The rock was first pulverized with sulphuric acid, and then dried off by mixing with wood ashes. It is thus brought into a state convenient for application. Prof. E. is desirous that extensive trials should be made with this article during the present season, and has left several barrels with Messrs. Emery for distribution. We hope the opportunity will be improved, to give this manure, which has proved of such great value in Europe, a fair test here. We will here correct an error made in a previous notice, in regard to the quantity of phosphate contained in the specimens from Crown Point. Prof. E., as well as well Prof. Norton, assures us that it contains from *eighty* to *ninety* per cent.

Writings of the late Timothy Pickering.—Hon. John W. Proctor, whose very interesting sketch of Col. Pickering, was given in our March and April numbers, writes—"I have received a letter from a gentleman in Philadelphia, familiar with the records of the Philadelphia Society for Promoting Agriculture, established 1785, of which Mr. Pickering was Secretary and Samuel Powell was President. He says that on looking over the books kept by him, he was astonished to find that he had not only made full and complete minutes of all the doings of the society, but had prepared a large *folio volume* of documents entirely in his hand writing, arranged with great precision, which have not been published. This is a fact, as is remarked, 'among the labors of this interesting man, in his capacity of farmer, that should not be omitted,' and I am pleased to annex it to others that I have communicated."

Fat Cattle from Kentucky.—Since the completion of the railroad from Cincinnati to Cleveland, many of the droves of fat cattle designed for the New-York and Boston markets, have been taken this route to market. Formerly they had to be driven across the Alleghany Mountains—sometimes making a journey of more than a thousand miles, and, though traveling at the rate of only ten to fifteen miles a day, at a great loss of weight, especially in the animals which were fattest at the start. We have noticed several droves of excellent cattle from the interior of Kentucky, which were transported over the railroad from Cincinnati to Cleveland, thence by steamboat to Buffalo, and thence to the Hudson river by railroad. Here they either take boat for New-York, or cars for Boston. They arrive here in fine condition, and must make a great saving in weight over the old mode of reaching market.

English vs. American Implements.—The London *Economist* has an article on the "Rural Machinery" on exhibition at the "Crystal Palace," in which the position is set up, that "no other nation has reached anything near our [English] state of advancement" in this department. The writer goes on—"This will be obvious on inspecting the Belgian and French agricultural implements, which consist only of plows and other tools for turning up or pulverising the soil, and are far less effective than ours. And it is even more obvious on looking at the American implements, which, with few exceptions, consist also of tools for performing the first operations of husbandry. Their plows are implements of very little power, and are quite incapable, we apprehend, of turning up a deep furrow. Indeed, the upright stilts, and short beam and mould-board, give the American plows exhibited much the appearance of a horse-hoe, or small potato plow, occasionally used by market gardeners; they afford, more than any other description can do, a conception of the primitive condition of husbandry in the New World."

The above is in several respects unfair. In the first place it takes the very unreasonable ground, that the London Exhibition represents the actual condition of agricultural implements in the different countries. England, of course, makes her utmost display; she has every facility and inducement for doing so; other nations, and especially the United States, have made no attempt at a general competition with her in this department. The great distance and various impediments, have prevented our manufacturers from sending many articles. Thus of plows, there are only specimens from *three* American manufacturers. Many of our best implements are entirely unrepresented. The assertion that our plows "are implements of very little power," is evidently made by a person who knows nothing about it. There is no evidence that he had seen the plows tried, and they had not, in fact, been tested in England when the article was written. Hence any judgment of this kind must be premature.

We have no disposition to claim more for American implements, or concede less for British ones, than positive merit would justify; but the conclusion, drawn from this exhibition, that those of England are far superior to those of any other nation, we believe to be unwarranted. As to plows, we are not altogether strangers to some of the best of English and Scotch manufacture. We are free to admit, that until lately, they have possessed an advantage, in one respect, over our American plows—that is, they have been better adapted to *stiff* soils. In such soils, the former will cut a deeper furrow, in proportion to the width, than most of our own. The fault with the latter is not that they will not turn a *deep* furrow—many of them will go seven or eight inches deep—they cut too wide, and leave the slice too heavy. But there is a great difference in our plows in this respect, and we do not admit that the superiority alluded to is entire and universal. Except in the particular mentioned, we are not aware that the English and Scotch plows can in general claim any advantage over the American.

Toads in Gardens.—Various remedies have been given for the prevention of the ravages of insects in gardens. Worms, or the larvæ of certain moths and beetles, often make great destruction among many kinds of plants. Various kinds of bugs attack melons, cucumbers, squashes, &c., and often destroy the crop soon after it appears above ground. Some kinds of worms seldom or never appear above the surface of the ground—attacking plants at their roots, or at such parts as are covered by earth. Others eat the leaves, and sometimes the stems of young plants. The latter are frequently called "cut worms," from the manner in which they cut off plants at the surface of the earth. In this way they totally destroy some kinds of plants,—as beans, melons, cabbages, &c., which, when once cut off in this manner, can make no further growth. One of the best means of preventing the ravages of these insects, is to hunt them early every morning, while they are near the plants they have eaten the previous night, and destroy them. Young chickens and ducks are sometimes kept in gardens, that they may devour the insects. This is but a partial remedy. Chickens will only eat a few species of insects—some of the most destructive they leave unnoticed—and they will always do more or less injury by eating various plants, and by scratching. Ducks feed more indiscriminately on insects, and do less damage to the plants. But *toads* will do much more good in proportion to the number, (if well grown,) than either chickens or ducks. They do no injury whatever; they feed altogether on insects, and devour almost every species that infests the garden. They have another advantage over chickens or ducks; they seek their food at times when insects are most abroad,—at dusk of evening, when fowls are at rest. Excepting the black "pumpkin-bug," toads will fill their stomachs with any bug, worm, or fly that belongs to the catalogue of enemies to the farmer or gardener.

☞ At the sale of the live-stock of Wm. S. King, Esq., near Providence, R. I., on the 7th of May last, the following prices were obtained for cows: *Brindle*, sold to M. P. Wilder of Massachusetts, $100; *Pink*, sold to John Lane, $105; *Jessica*, sold to S. J. Capen, of Massachusetts, $170, and several others $50 to $70 each. They were mostly of mixed blood—Short-horn, Devon, and Holstein, with the common stock.

Buckwheat.—This crop is one of considerable importance in many parts of New-York. It is usually sown in July—sometimes as late as August. A bushel of seed to the acre is the usual quantity. Sometimes it is sown on land from which a crop of hay has been taken the same season, and on a clover ley, if the soil is loamy and friable, it will frequently do well. This grain is also sometimes sown in connection with winter wheat, as a protection to the latter for winter. From personal experience, we cannot speak of it for this purpose. The consumption of buckwheat flour in our cities, during during the winter months, is very great, and it commands a price but little inferior to that from wheat. The coarse parts of the grain, after the flour has been separated, make good food for swine, milch cows, or other stock; and as a good yield—twenty-five to thirty bushels per acre—can frequently be obtained on land where wheat cannot usually be cultivated to profit, the crop has many advantages.

Manufacture of Mustard.—We have made some inquiries of Messrs. E. Murdock & Son, of this city, in regard to the manufacture of mustard. We have been not a little surprised at the extent to which this business is carried on by them, and by information they have given us in regard to the manufacture of the article in the country. Messrs. M. work up from 1,000 to 1,500 lbs. of mustard seed per week, equal at least to 30 tons a year, and they think the quantity manufactured in the state is at least 100 tons a year. They state that but a small portion of this seed—not more than a hundreth part, is raised in this country. The larger portion, and that of the best quality, is imported from Sicily and France. It is worth on the average seven cents per pound, or $3,50 per bushel. Messrs M. state that most of the American seed which they purchase, is as good as the best imported. They inform us, also, that the principal objection to the quality of the seed raised a few years since in Ohio, was that the crop was frequently cut when much of the seed was in an immature state, which occasioned much of it to shrink and sometimes to become mouldy. It should be cut at different times—the lower branches first, and other portions as they ripen. Messrs. M. are now getting some good seed from Illinois and Wisconsin. It averages in yield about fourteen bushels per acre, and gives a satisfactory return to those who pay proper attention to the cultivation and curing. Messrs. M. recommend the adoption of the Sicilian seed for sowing in this country, as being more productive and uniform in quality.

Emigration to the United States.—The *North British Agriculturist*, in reviewing Professor Johnston's "Notes on North America," says—"The extent to which emigration is now going on from Great Britain is, indeed, such as ought to excite serious alarm. In the year 1849, the numbers in the parliamentary returns were close upon 400,000. We have not seen the returns for 1850; but we believe that the increase during that year was at least 12 per cent., and this year it will be still more. We are quite prepared to hear that during the present year, 500,000 individuals will have left the British islands, which is equal to about two years increase of the population; so that, at this rate, every four years the population will have diminished by nearly one million. The Irish newspapers are already teeming with apprehensions as to the consequences of this wholesale system of expatriation." The writer concludes that Great Britain suffers greatly, not only from the loss of hands necessary for agricultural labor, but also from loss of capital—the latter being computed at £10,000,000 a year, taken out of the country by emigrants.

Number of Seeds in Given Weights—Mr. Melvin stated in a late discussion at an English Farmers' Club, that after several trials he had found that—

1 lb. of red clover of good quality gives, per acre, to each superficial foot,................	6¼ seeds.
1 lb. yellow clover, (*Medicago lupulina,*)..	6 "
1 lb. white clover, ...	16 "
1 lb. rye grass, ...	5 "

But as a large number of the seeds sown do not vegetate, and many of the plants which come up die, it is necessary to sow much larger quantities than are specified; and Mr. M. recommends for an acre, 8 lbs. red clover, 2 lbs. white do., 2 lbs. yellow do., with one bushel of rye grass, which by his computation affords 100 seeds rye grass, 50 red clover, 32 white, and 12 yellow clover, per superficial foot. In this country, a good substitute for the rye grass would be the same quantity of red-top per acre.

Imported Horse Trustee.—We saw this fine horse a few weeks since, at Morrisania, Westchester county, where he is kept the present season, in charge of Mr. Henry Booth, one of his owners. Though upwards of twenty years of age, he was in excellent condition, and as sprightly as a colt. He is a horse of fine symmetry, and excellent temper, and has been the sire of much good stock.

Morgan Horses.—We are pleased to learn that much attention is paid to this stock of horses in Brattleboro', Vermont. Great care is taken in selecting and preserving the best blood; judicious crosses are also made with the finest and most approved English blood, having proper regard to speed, graceful action, and endurance—preserving the distinctive qualities and characteristics of the noble "Morgans."

Shanghae Fowls.—We have received from Dr. E. Wight, of Boston, a pair of these fowls, bred from stock imported by him from Shanghae. They are entirely white, and of good size. Dr. W. informs us that though they are not quite a year old, the cock weighed, a few weeks since, nine pounds.

Fleece of a "French Merino" Ram.—We have received from Messrs. J. C. & J. R. Morris, of Morris, Otsego county, a sample of wool from a Merino ram, imported by F. M. Rotch, and now owned by Messrs. M., the fleece of which, they inform us, weighed "twenty-one and a half pounds, unwashed and of one year's growth." The animal was two years old last spring. The wool is of fair quality.

New-York State Agricultural Society.

A meeting of the Executive Board was held at Rochester on the 5th of June. We are gratified to learn that all the necessary arrangements for the Fair, which is to take place at Rochester on the 16th, 17th, 18th and 19th of September, are in a state of commendable forwardness, and that everything connected with that display is highly favorable and encouraging.

It appears that the steam-boats on Lake Ontario, and the railroads, generally, in the state, have agreed to carry articles and stock for the Fair *free*, and passengers for *half price*, as has heretofore been customary. It is probable other railroads and boats will come into the same arrangement. The President has received instructions from the Government, whereby all animals and articles intended for the exhibition at the Fair, are to be admitted from foreign places free from duty, to be entered according to the provisions of the Warehouse act; and the Fair Grounds at Rochester are to be deemed constructive warehouses, where all animals and articles from abroad, duly entered, shall be under the supervision and custody of the officers of the Customs.

The following superintendents of the different departments of the Fair grounds were appointed:

Cattle—Wm. H. Sotham, Black Rock.

Horses—J. B. Burnett, Syracuse.

Sheep—Lyman Sherwood, Auburn.

Swine—R. Harmon, Wheatland.

Poultry—L. H. Haddock, Buffalo.

Floral Hall—L. A. Ward, Rochester.

Dairy Hall—Israel Denio, Rome.

Manufacturers Hall and Machinery—L. B. Langworthy, Rochester.

General Superintendent of the Grounds and Charge of the Entrances—Henry Wager, Utica.

Mechanical Motive Power for Moving Machinery—Wm. Kidd, Rochester.

The monthly meeting of the Board for August, will be held at Rochester on the 7th of the month.

Albany Prices Current.

Albany, June 14, 1851.

The receipts of produce of all descriptions during the past month have been very large—far in excess of the receipts by Canal to the corresponding period last year. The result is, in absence of any large demand from abroad, accumulating stocks and gradually declining prices. The English markets for Breadstuffs and Provisions, hold out little encouragement to shippers, and quotations of the former especially under the influence of promising crops, in Ireland especially, and large receipts from the Continent rule very low. The imports from France alone in 1850, were last year over 4,000,000 bushels of wheat, and 1,000,000 bls. of flour; the receipts this year from the same source are represented to be largely in advance of those to the corresponding last year.

Flour.—Our market for flour has been confined to sales on Eastern and River account and a moderate trade demand. The sales have been about 36,000 bls. at quotations. Wheat shows a further decline, and the market still exhibits a downward tendency. We quote common State and mixed brands of Western $3.87a$4, good State and Western, $4a$4.12½; round hooped Ohio and favorite State and Western $4.06a$4.18¾, and Genesee $4.31a$4.44, fancy Genesee and extra Ohio $4.50a$4.75 and extra Genesee $5a$6. The latest quotations from Europe are of 30th May Western Canal flour 16a 19s. Philadelphia and Baltimore 20a20s. 6d. St. Louis Canadian and Ohio 19a20s. Sour and heated 16a18s. A sale of 500 bags Corn meal was made at $1.18¾ per cwt.

Grain.—There has been a limited business done in wheat; prime samples of Genesee are scarce and wanted; uniform parcels of State or Western are unsaleable here; the transactions are 28,000 bushels at 112½a115 for Genesee, closing at the inside figure, 97a99c. for White Michigan, 87½a90c. for Mediterranean, 91c. for Ohio and 65½c. for Chicago. Rye has been in moderate supply; the only sales have been 2600 bushels in two lots, at 72½c. and 400 do. at 76c.; a lot 21,000 bushels in store at Oswego, was offered here on Thursday last to be delivered at 78c. There has been a fair business done in Oats; the sales are 166,000 bushels at prices ranging from 48 to 43a44c., closing at the lower figures for good samples States and Western. The sales of Barley have been limited and reach 12,000 to 14,000 bushels at 110a95c. as the range, closing at the lower figure with a declining market; included in the sales were 3,000 bushels Scotch Barley at 100c. The supply of Corn during the month has been very large and quotations under the influence of the receipts here and in prospect have further declined. We quote Yellow mixed 56½, and Western mixed 54½c. at which the market has ruled steady for some days; round White for the moment is higher and may be quoted 62a66c.; the sales during the month here and to arrive aggregate 400,000 bushels. Malt retails at $1.25a$1.31½. The quotations in Liverpool on 30th May, were Wheat, red, 5s. 3d.a5s. 6d. per 70 lbs., do. White 5s. 10d. a6s., do. mixed 5s. 7d.a5s. 9d. Indian Corn, white, 31s. 6d.a32s. per 480 lbs., do. mixed 29s. 6d.a30s. and do. Yellow 30s.a30s. 6d. Yellow meal 14s.a14s. 6d. per brl.

Feed.—The sales which reach 60,000 to 70,000 bushels, show no material change on rates; shorts 13a14c., second quality 18½a23c., and fine feed 100a106c.

Hops in limited supply; sales crop of 1850 at 40c.

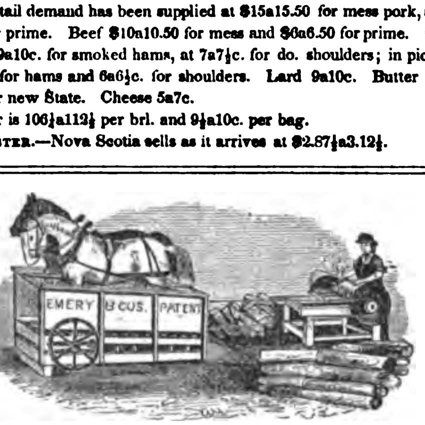
Wool.—We have no sales to note. The new clip is arriving at the Western markets sparingly, and not enough to make a market.

Whiskey has followed the decline in coarse grains and can be quoted at 22 for Ohio and State brls. and 22½ for S. P., with sales 700 to 800 bls.

Provisions.—The sales include 500 bls. Pork at $15a$16 for mess and $13.25 for prime. In Beef a sale of 64 bls. extra city mess was made at $11. In Cut Meats there has been a fair business done with sales 400 bls. at 8c. for pickled Hams, 6½a6¾c. for do. Shoulders, and 7c. for canvassed Hams. A sale of 150 bls. Lard was made at 9c. The retail demand has been supplied at $15a15.50 for mess pork, and $13 for prime. Beef $10a10.50 for mess and $6a6.50 for prime. Cut meats 9a10c. for smoked hams, at 7a7½c. for do. shoulders; in pickle 7½a8c. for hams and 6a6½c. for shoulders. Lard 9a10c. Butter 12a 14c. for new State. Cheese 5a7c.

Salt is 106½a112½ per brl. and 9½a10c. per bag.

Plaster.—Nova Scotia sells as it arrives at $2.87½a3.12½.



EMERY & CO.'S
New-York State Society's First Premium
RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair, (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision ruined your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season, make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse. EMERY & CO.

LANDS ON LONG ISLAND,

ADJOINGING the Villages of Lakeland and Hermanville, about 45 miles from the cities of New-York and Brooklyn, by the Long Island Railroad. The opportunity is now offered to all those who ever wish to obtain land on Long Island, the ancient "Garden of America," that will probably never occur again, for these lands are the only remaining new lands on the Island, and are equal in quality, when cultivated, to any other land.

The results of cultivation on these Island lands have been so great, so much beyond the expectations of any one, that they are now considered of great value for farms and gardens, and will, in all probability, be all taken up for settlement and occupation, or be held at more than five times their present price. All kinds of produce may now be seen growing there, such as wheat, rye, corn, potatoes, and garden vegetables, with fruits and flowers, in the most luxuriant growth, where but a short time since, the land was covered with trees and bushes.

The surface of the ground is perfectly beautiful, free from stone, bogs or marshes, and the climate as healthy as can be found in this latitude. The soil is a fine loam, admirably adapted to high cultivation and great crops, and of easy tillage.

Indeed no New-England or Northern New-York man can form any adequate idea of the difference in the labor and strength requisite to cultivate these Island lands, and that required to subdue their own rugged lands, until he has seen or made the trial; and I now offer for sale as handsome land, and intrinsically as valuable, as can be found within fifty miles of the city of New-York, in any direction, in lots of five acres or more, for the sum of $25 per acre.

Any person wishing to purchase a five acre lot of good and handsome land, without one foot of water or useless ground on it, can do so by sending $10 as a first payment, and the further sum of $10 a month until half is paid, when warrantee deed and good title will be given, and the remainder part of the purchase money may be paid or secured on the land, to be paid within three or five years with 6 per cent yearly interest. Larger lots will be sold on the same terms.

The title is perfectly good—I have a history or deduction of the title complete—certified to by legal men of the highest character, I will send by mail, with maps, pamphlets, and all information, to all purchasers, or those who wish to be informed of these Island lands, by applying to CHARLES WOOD, Stationer, 117 John street, New-York.

July 1—2t.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212½ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.

July 1—tf.

IRON RAILINGS.

THE subscriber is agent for one of the most extensive Iron Railing establishments in the country, is prepared to fill orders at short notice for every discription of Wrought Iron Railings, and also patent Wire Railing. These Railings are well adapted for enclosures of all descriptions, particularly Cemeteries, Public Grounds, Door Yards, Gardens, Balconies, &c., it is also used for covering for Windows of Stores, &c.

Have also for sale, the English Hurdle fence at a low price. For further particulars respecting prices, and for drawings of Railings, please address by letter or otherwise,

A. LONGETT, Commission Merchant,
Office at the State Agricultural Warehouse.
July 1—1t. No. 25 Cliff street, New-York.

THE WORKING FARMER.

A MONTHLY publication devoted to Agriculture, Horticulture, &c. Edited by Prof. J. J. Mapes, published by A. LONGETT, No. 25 Cliff street, New-York, at $1 per year.

July 1—1t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

McCormick's Patent Virginia Reaper.

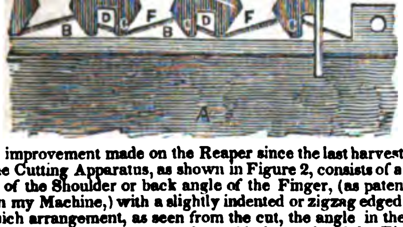
Rochester, May 12, 1851.

THE undersigned, in again offering his Reaper to the Farmers of New-York for the ensuing harvest, deems it unnecessary to say much in the way of an advertisement, having provided for bringing the subject directly to the attention of those interested, by means of traveling and local agents, who are provided with handbills for distribution in the different wheat growing portions of the state, which furnish a fuller account of the Reaper, with the recent improvements made on it, than could be generally given through the newspapers of the country. It is deemed sufficient to say here, that the undersigned has made ample arrangements for the supply of whatever demand shall be found in New-York for his Improved Reaper, (having improved it more or less every successive year since its first introduction,) provided that application for the same shall be made in due time; and that Hon. Thos. J. Patterson of this city will act as his principal traveling agent, and will supply local agents for counties or small districts, with hand bills and all needful information in relation to the Reapers, which will be kept on deposit at Buffalo and Rochester,—and it is also intended to have one at Brockport, and some suitable place in each district, that can be seen, where persons desirous of purchasing would do well to call and examine them. They are referred for them to Holt, Palmer & Co., of Buffalo, and to Mr. Patterson, Joseph Hall, or David R. Barton, Esq., of Rochester. Mr. Hall, well known throughout this state for the last ten or fifteen years, as the most extensive and successful manufacturer of threshing machines in the state, and Mr. Barton, equally well known as the most extensive general "tool manufacturer" in the state, have, (as will be further seen from their advertisements,) taken agencies for the sale of the Reaper,—the former for the counties of Monroe, Ontario and Wayne, and the latter in those of Livingston, Genesee and Wyoming. Mr. Hall will be supplied with patterns, and can from time to time furnish any parts of the Reapers to purchasers; and Mr. Barton will be supplied with sickles for both new and old machines.

The price of the Reaper will be the same as hitherto, and it will, in every respect, be warranted as heretofore, as will be found in the printed form of an order for one, the undersigned being still determined, (as heretofore,) to introduce it upon its merits, and to the satisfaction of the farming community—who should look well to the *form* of the *guaranty* offered by others.

Local agents are requested to keep up a regular correspondence with the undersigned, at Chicago, Ill., who will be pleased at all times to be inquired of through the mail, by any one in relation to the Reaper. Mr. Patterson may and should also be written to, but he will be necessarily much from home, and all delay should be avoided that can be.

The undersigned, not having for some time felt it necessary to publish *certificates* of his Reaper, would respectfully refer those feeling any interest in it, for information, to the following persons, viz: Daniel Collins, Esq., Fayette, Onondaga county; A. Bothwell, Genoa, Cayuga county; David Oliver, Aurelius, Cayuga county; H. Osgood, Ovid, Seneca county; Abram Bloomer, Romulus, Seneca county; E. P. Spencer, Penn Yan, Yates county; Cyrus Gult, Hopewell, Ontario county; William Woolston and J. P. Vanness, Victoria, Ontario county; Hon. Charles Carroll, Groveland, Livingston county; W. F. and N. Crappell, Avon, Livingston county; Dr. C. McKinzie, York, Livingston county; Anson Zorpy, Elba, Genesee county; W. P. Slocum, Cambria, Niagara county; Ethan Pettit, Wilson, Niagara county; Dr. J. Grever, Lockport, Niagara county; Simeon Wilson, Lockport, Niagara county.



The improvement made on the Reaper since the last harvest, which is in the Cutting Apparatus, as shown in Figure 2, consists of a combination of the Shoulder or back angle of the Finger, (as patented and used in my Machine,) with a slightly indented or zigzag edged Sickle, by which arrangement, as seen from the cut, the angle in the Sickle edge is made so obtuse, as, together with the angle of the Finger for *holding the grain to the Sickle*, to effect the most perfect philosophical principle of cutting, by using just the right slope for cutting with the *least resistance*, and in the most perfect manner. The objections to the zigzag edge, as used by Hussey and others, are in this entirely obviated, while all the benefits derived from the use of my Finger are still secured. Without the angle in the Finger for holding the grain to the Sickle, it has been necessary to use so acute and abrupt an angle in the blade to effect the cutting, as to require a very high motion to the blade, and that, with so much friction and resistance as to make the Machine very liable to get out of order—the cutting being done more by means of the *abrupt stroke* against the grain, than by the edge of the instrument. This is understood by every boy who knows how to draw a knife in cutting a stick, and needs only to be stated to be understood by all.

C. H. McCORMICK.

Chicago, May 20, 1851.

EDS. ALBANY CULTIVATON.—Please insert the foregoing advertisement in your valuable Journal—and permit me again to refer your readers to the 186th page of the May No. of the "Cultivator," for Mr *Husseys's* own repudiation of *his* Machines, as heretofore manufactured by his brother at Auburn, N. Y., and elsewhere, which have been the only machines of his sold or offered in the State of New-York. As to his real Simon pure "*Balt. Machine*" which *he now claims* "has driven from the field East of the Alleghany Mountains, every other Reaper," [April No. Cult. p. 149,] I need only say that I sold East of said mountains, *from Chicago*, for the *last harvest*, near 100 Reapers—being a *larger number than Mr. Hussey sold from his Baltimore manufactory altogether*—and calculate to sell *there* for the ensuing harvest at least double this number, 150 having already been shipped; and further to *explain*, that for a few years past, while I have been engaged in the manufacture and sale of my Reapers in the *Prairie country* of the North-west, by thousands, and so extensive as nearly to require my whole attention, Mr. Hussey has been able to sell but *very few there*—whether of Baltimore or other manufacture, and with all the effort he has been able to make *personally*, as well as with all the *agencies* he could procure—and indeed, as I am informed, has not sold from his Baltimore manufactory altogether, "East of the Alleghany Mountains," some 50 Machines a year—while I was able to give but little attention to the supply of that section of the country. And I will only add that, being now prepared to supply the demand for Reapers throughout the whole of this country—Texas, California and Oregon not excepted, and where they are about being introduced—I shall be disposed in future, as "heretofore," to compromise with Mr. Hussey by continuing to supply the *demand of the country* with Reapers, while he may continue to "lay the flattering unction to *his* soul" that his "*Baltimore* Machine" is the "only genuine article,"—and not being ambitious "of making a very large number of Machines, the extent of my (his) business, has heretofore been to fill (a few) orders."

I may say that while Mr. Hussey has *advertised* his Machine for *mowing*, since its first introduction, without success, I *sold* a good number of Machines last year, adapted to mowing as well as reaping, which gave satisfaction, and are believed to be superior to any others yet used; and that they will be so *introduced and further tested* the present season in the different sections of the country—and that the mowing attachment can at any time *hereafter* be applied to the Reapers of this year if wanted.

I shall conclude by referring to a single (subjoined) letter from Maryland, and to the following authorised agents for the sale of "McCormick's Patent Virginia Reaper," viz: H. N. Willetts, Middletown, Del.; L. H. Dowdney, Greenwich, N. Jersey; E. Whitman jr. & Co., Baltimore, Md.; C. Page, Fredericktown, Md.; H. M. Smith, Richmond, Va.; Abner Thompson, Reedsville, Mifflin county, Pa.; Lee Pierce and Lee, Ercildown, Chester county, Pa.; Lewis Moore, Bart township, Pa., and Saml. Whirry, Chambersburg, Cumberland co., P.; T. R. Ebhinton, 63 South Wharves, Phil., principal depot for Reapers East of the mountains. Very respectfully yours. C. H. McCORMICK.

Waterloo, St. Mary's Co., Md., Nov. 12, 1850.

Mr. C. H. McCormick, of Chicago, Illi.: I have been intending to write you ever since harvest, concerning a Reaper my brother and I ordered of you, but have deferred till I am almost ashamed to write, though I think I ought to write. When a man invents any machine which is of essential service to his fellow man, his reward consists not alone in the dollars and dimes which it brings into his pocket, but also in the good report of the progeny of his genius.

My brother and I having rather heavy harvests for our forces, determined to buy a Reaper in partnership. When he was about to start for Baltimore to procure one, I cautioned him particularly "not to get McCormick's," having seen an article in the American Farmer by Dr. M——, of the Eastern Shore of Maryland, in which Hussey's and McC.'s Reapers were compared, as I thought much to the prejudice of McC.'s; but my brother, contrary to instructions, meeting with Mr. Whitman of Baltimore, was induced to purchase one of the forbidden McC.'s Reapers. I commenced in my own crop, in a lot of wheat, some of which was 6 feet 4 inches high, and some not over 3 feet, and it would have done you good to see how she laid it down, with a *green* raker and driver. With this same raker I cut my field of about 70 acres, and my brothers of about 60 acres, and all without worsting the horses one pound in flesh, to all appearances. Mr. Plowdon, who is a large wheat grower, has had one of Hussey's Reapers at work for three or four years, and one might suppose that the appearance of a Reaper would be nothing to attract attention; but it was otherwise. My field was thronged with visitors all the time, both ladies and gentlemen, and all pronounced her work admirable and perfect. So well pleased with it were those farmers who saw it work, that I think I could ensure the sale of at least six in this immediate district, at a small premium. One gentleman, who is a man of few words, after following the Machine about a hundred yards, and eyeing every *rake* and *turn* of the reel, without a word, first made use of this language: "I am done with cradles." Another said—"If I can raise forty dollars I'll have one." I only write these to show, (they are few of the many commendations,) how your Reaper *took* in this neighborhood. I consider it scarely susceptible of improvement. She has been well tried I assure you; and If I were asked what I consider the advantages of having McCormick's Reaper, I should say candidly, I think the Reaper worth at least $15 per day, besides the saving of enough wheat over and above what the best cradles save, to pay for herself in reaping a field of 50 acres of good wheat. In fine sir, if there could be no more Reapers made, but the privilege of keeping this up by repairs, reserved, I would not take $1,000 for it, and I have heard my brother say the same. Repectfully.

July 1—1t. Z. D. BLAKISTONE.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Transactions N. Y. S. Ag. Society.

THE Transactions of the New-York State Agricultural Society vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in al- branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—8t.

EMERY & CO.'S

New-York State Agricultural Society's

FIRST PREMIUM

RAILROAD HORSE POWER,

AND

OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Railroad Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,..................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.,............	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use,..............		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,................	$75
Two Horse Power,................	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

Louis Agassiz, LL.D., Professor of Geology and Zoology.

Jeffreys Wyman, M. D., Professor of Comparative Anatomy and Physiology.

Henry L. Eustis, A. M., Professor of Engineering.

Eben Norton Horsford, A. M., Professor of Chemistry.

Instruction is also given by Professor Pierce in Mathematics, Prof. Lovering in Physics, and the Messrs. Bond at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel Wool on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for Cash.

The charges for receiving, sorting and selling will be one and a half cents per pound, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar. A. B. ALLEN & CO.,

Merch 1—tf. 189 and 191 Water street, New York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultura Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assort[illegible]

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels.

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.

March 1—tf. 197 Water Street, New-York

Emery's Horse-powers and Threshers.

EMERY & CO.'S Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York. G. H. BARR.

June 1—2t.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

June 1—4t. G. H. BARR.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.

Bone Dust. Sawings, Shavings, and Crushed, at $2.25 per bbl.

Bone Black, or Burnt Bones, at $3 per hogshead.

Bone Waste, or Bone Manure, at 1½ cents per lb.

Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.

Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

FARM FOR SALE.

THE subscriber offers for sale 350 acres of land, situated four miles north of Chimney Point Steamboat Landing, on the east shore of Lake Champlain, and ten miles from the Vergennes Railroad depot. The farm is well watered, and has a sufficient quantity of Pine timber to keep it in fence for many years, and a surplus of fire wood. The house is comfortable; the barns, six in number, some new and all in good repair. There are two orchards, which produce grafted fruit of the best varieties. The farm will recommend itself to any one who will take the trouble to inspect it. Also, for sale one thousand good Merino sheep. JONAS N. SMITH.

Chimney Point, Vt., June 1, 1851—2t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES*, *MULES*, *PRIZE BULLS*, *SHEEP AND CATTLE*, of every description, against the combined risks of *Fire*, *Water*, *Accidents and Disease*.

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season at the stable of S. A. Gilbert, East Hamilton. Terms, $10.00 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse, thus possessing more of the blood of the Gifford Morgan than any other horse now living. For figure and description, see Cultivator for 1849, p. 216.

MORGAN CHIEF will be four years old on the 18th of June next. He is a superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. He will stand at the stable of H. R. Ackley. Terms, $10.00 to insure. See Cultivator for 1849, p. 67.

June 1—2t. ACKLEY & GILBERT.

Morgan Horse Young Gifford.

THIS splendid colt will be kept at the stable of the subscriber the coming season, for a few mares only. Young Gifford will be three years old in June next; in color chestnut; was bred in Walpole, N. H., by F. A. Wier; got by Gifford Morgan, dam by Sherman Morgan, thus possessing the blood of the best Morgan Stallions on record. In color, form and action, he closely resembles his illustrious sire. Terms, $10.00 to insure. Good pasturage furnished; accident and escape at the risk of the owner. S. A. GILBERT.

East Hamilton, Madison Co., N. Y., June 1—2t.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

SIR HENRY ECLIPSE

WILL stand in the city of Albany, at the stable of Wm. W. Woolford, 157 Washington-street, as follows: Five dollars single service, ten dollars the season—insured by agreement. Season to commence the first of May and end the 15th of July. Admirers of good horses are invited to examine for themselves.

PEDIGREE.—His grand sire was the noted horse Sir Henry, imported; his sire the McKinney Henry; his dam from Morgan descent; and in point of beauty and endurance, could not be excelled in the land. Sir Henry stands full seventeen hands, is a dark chestnut, and weighs about 1,400 lbs., and is a perfect model of a horse. He challenges the land for comparison of stock, and is the horse that was awarded the first premium at Buffalo when three years old, and is coming six years old this May. JOHN D. SPINNER.

June 1—2t.

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DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot in length,	per thousand,			$9 00
2½	do	do	do	do		10 00
3	do	do	do	do		12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices.

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I., or
E. J. DUNNING, No. 1 Bond-st., New-York.
Staten-Island, July 1—tf.

DRAIN TILE WORKS, ALBANY.
60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

Stock and Dairy Farm For Sale.

THE subscriber offers for sale his farm, in Windsor, Broome co., four miles from the Erie Railroad, and eight miles from Binghamton.

It consists of 400 arces, 300 of which are improved, with a dwelling house, barn, sheds, and a Pine Apple Cheese manufacturing establishment thereon. The land is of excellent quality for grazing or grain growing, and will be sold together or divided, at an inviting price, with or without the stock.

Applicants may call on M. Hawley, James S. Hawley, or A. Doubleday, Binghamton, for price, &c. ELI PRENTICE.

Chenango, July 1—2t.*

Full Blood Devon Stock for Sale.

THE subscriber will dispose of 10 or 12 head of his pure Devon Stock, consisting of Cows, Yearling Heifers, Bull and Heifer Calves, and one Bull two years old. This stock was derived principally from the herds of R. L. Colt, Esq., of New-Jersey, and Geo. Patterson, Esq., of Maryland. The Cows are excellent milkers, and the Yearling Heifers and Young Stock, are very beautiful animals.

The two year old bull was got by Rover, a Full Blood from the stock of Lewis F. Allen. Dam, Ellen, a Prize Cow from the stock of Mr. Colt. ROVER was by the Imported Bull ECLIPSE.

I will also sell my fine MORGAN STALLION YOUNG GIFFORD, four years old this spring; a colt of the Old Gifford Morgan, his dam a Morgan Mare. Also a fine Morgan Mare by the same Horse, and same age—her Dam by Morgan Eagle, Grand Dam by the original Justin Morgan Horse. MORGAN EAGLE was got by old WOODBURY MORGAN, well known as the sire of the Old Gifford. The Mare has a foal by her side by the above Horse.

Both of these animals are fine and very promising, and among the the very best specimens of this distinguished breed. For terms, &c., address "post-paid," WM. L. COWLES.

Farmingon, Ct., July 1—6t.

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THE CULTIVATOR

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, AUGUST, 1851. VOL. VIII.—No. 8.

AGRICULTURE OF OHIO—No. 1.

BY W. G. EDMUNDSON.

HAVING made it a considerable portion of our business during the past two years, to become familiar with the various systems of agriculture practiced in Ohio; and having also obtained a pretty thorough acquaintance with the agricultural resources of the state, by personally visiting some fifty counties; it is with much confidence, we set about the task of preparing a series of practical papers for THE CULTIVATOR, that will furnish to its readers a correct and in every respect reliable account of the present condition of the agriculture of Ohio, as well as a full description of the quality of the soil, its value, and of other facts bearing a close relation to the productive interests of the Buck-Eye State.

Ohio occupies a proud position among her sister states in point of her agricultural resources. She has become celebrated for her wheat, corn, pork and beef; and in fact her soil and climate are sufficiently varied to adapt them for the profitable growth and production of all the grains, seeds, fruits and vegetables, that are necessary to supply the wants of man or beast.

In order that we may be understood, and that the practical farmer may derive some pleasure and profit whilst perusing the facts and deductions that we shall have occasion to glean from the wide-spread book of nature and of art we see in our mind's eye spread before us, whilst occupying, as nearly as possible, a central position in this great and progressive agricultural state, we shall for convenience sake, both for the writer and reader, divide and subdivide our varied subjects under appropriate heads, as may from time to time be thought necessary for the full discussion and elucidation of the interesting theme selected for illustration.

THE CULTURE AND MANAGEMENT OF THE WHEAT CROP.—The state of Ohio produced the past year at a low estimate, 35,000,000 bushels of wheat, of which at least 20,000,000 will be a surplus. This probably is the largest yield that has ever been produced in this or any other state or country, of the same area, in a single year. The wheat lands proper of Ohio are limited somewhat in extent, but more or less of this crop is cultivated in every county of the state. Systems of culture that find favor in one region of the country, could with difficulty be introduced in others; and hence the necessity of going pretty fully into detail, for the purpose of pointing out the various modes of culture practiced, with the comparative results both as it regards the crop and the effects produced on the soil. The counties most celebrated for the production of wheat are Knox, Licking, Richland, Ashland, Wayne, Stark, Muskingum, Fairfield and Belmont. These counties produced the past season, in the aggregate at least 10,000,000, of which Stark and Wayne yielded each 1,250,000 bushels. The average product per acre throughout those counties may be rated at 20 bushels; some favorable townships at 25 bushels, not a few highly cultivated sections or neighborhoods at 30 bushels; and in very many cases individual farms averaged each a yield of 40 bushels per acre. The wheat counties in the main embrace a region of country that is located on the dividing ridge that separates the waters flowing into Lake Erie and the Ohio river. About one-half of this region may be nominated hilly, and the balance rich valleys, and table lands. But a very small portion is too hilly for the profitable cultivation of the cereal grains; and the valleys are generally sufficiently dry for the growth of wheat. The value of the valley land ranges from $30 to $40 per acre; the moderately hilly and undulating at from $20 to $30; and the high table lands at from $15 to $20 per acre. In favorable seasons, the valleys produce the largest yield per acre, and in seasons like the past, from 35 to 40 bushels per acre was harvested on the rich corn lands, with no other cultivation than what was given in the management of the corn crop.

The best and most certain land for wheat is the high rolling up-land, covered with a thick growth of oak timber. This is the prevailing timber of the most valuable wheat land in Ohio; though such a description of soil as abounds in an oak country requires a very different system of management from soils that were originally covered with a thick growth of sugar maple, elm, black walnut, and cherry. The latter, for all other description of crops except wheat, is the most valuable, and even for the latter crop, if it were not for the influence of rust, would produce a much greater average yield than the thinner description of soils, such as prevail where oak is the principal timber. Timber of the varieties enumerated is very abundant on the valleys bordering the streams, and the quality of the soil, and its value, may be pretty accurately ascertained by obtaining a knowledge of the timber grown upon it. The original rocks of the country as well as its general geological formation have of course something to do with the character of the soils; but as a general thing, unmistakeable evidences are afforded of the quality and value of the soil by the prevailing timber with which it was originally covered. This fact is here mentioned, so that the reader will readily comprehend what is meant, when allusion is made to systems of agriculture that are pursued on different soils, being indicated by the character and quality of the timber which prevail in the region of country under consideration.

System of Culture practiced on thin Oak-land.—The cultivation of clover as a preparative crop for wheat, is more generally practiced on the oak lands, such as abound in Richland, Ashland, Wayne and Stark counties, than in any other portion of Ohio. In these and a few adjoining counties, the system of making naked summer fallows prevails very generally; and indeed but very little wheat is sown in any other way, by those who make it a point to make their wheat crop their main dependance. The summer fallow is usually made on a two year old clover sod. It is rarely broken up before the 1st of July, and after which it is allowed to remain almost untouched until the first week of September, when it is again plowed, usually lengthwise of the first furrow, to be sown for wheat. The seed is then covered either with a harrow, cultivator, or shovel plow, and in some rare cases with a drilling machine, which completes the whole process. The white varieties of wheat are the most popular, and hence the farmers in this region obtain higher prices for their wheat than those who sow the thick and dark bran varieties. The quality of the wheat for flouring purposes, grown in the most celebrated wheat counties, is equal to that produced in the country bordering the Genesee valley. Nothing in fact can excel it; but unfortunately for the character of this wheat, it becomes mixed in too many cases by either careless or interested purchasers, which detracts from its value by the time it gets into the eastern market, from 10 to 12½ cents per bushel. A common practice among the Buffalo jobbers, who deal largely in western wheat, is to take Ohio white wheat, weighing from 60 to 66 lbs. per bushel, and mix it in nearly equal proportions with Illinois or other northwestern spring wheat; the whole of which is sold to the miller at an advanced price on the value of the spring wheat, but in reality the real worth and character of the superior article are very considerably deteriorated. This practice is often done by the local purchaser in order to reduce the cash value of the white wheat down to the same standard that is paid for the common coarse varieties. By this practice the grower sustains a loss of some 10 cents per bushel, besides the general character of both the wheat and flour of the country is damaged in the eyes of the eastern export merchants.

In some cases, the whole of the manure made on the farm is spread upon the clover sod just before it is broken up; and where the soil is naturally thin in vegetable matter, this practice, in connection with turning under a heavy growth of clover, is found to increase the quantity of straw and the yield of wheat, to an extent that richly repays for the labor and expense attendant upon that course. The growth of clover appears so natural to the soil, that as yet but little attention has been paid to the application of artificial manures to the young clover crops; but in seasons of extreme drouth especially, an expenditure of a few shillings per acre, in the purchase of gypsum for this crop, would be instrumental in giving a uniform heavy growth, where without such agency, only a stunted and unprofitable product would be realized. This is being understood by a few enlightened farmers; and occasionally instances may be met with, where the advantage resulting from the use of gypsum is acknowledged and appreciated; but strange as it may appear to those who have seen the wonderful results produced by the extensive use of this powerful fertilizer in central New-York and elsewhere, only now and then a farmer in Ohio seems to have any correct notion of its properties, and the powerful fertilizing influences effected on all broad leaved plants.

Within the past three or four years the very rational opinion has gained ground, that under a careful system of rotation of crops, the plan of making naked fallows may be dispensed with altogether. This system however is only adapted for certain descriptions of soils, and it is questionable whether it is susceptible of universal adoption, even under the most careful mode of management. The course at present pursued, and the one alluded to, consists of plowing under a pretty heavy growth of clover, about the middle of August. It is then allowed to remain undisturbed until about the 10th or 15th of September, when the seed is sown and covered, either with a steel tooth cultivator or shovel plow. The opinion is fast gaining ground by farmers who have fully tested the system on a large scale, that a much larger yield of wheat per acre may be had from a single furrow, than if the land had been plowed two or more times, and brought to the highest possible state of tilth by an expensive process of frequent plowing. It is very obvious that if the land be in a high state of cultivation when seeded down with clover, and only one crop of clover hay, or a season's pasturage be taken from it, before it be broken up, that the soil must be improved in tilth, rather than otherwise by being seeded with clover. Clover, like all broad-leaved plants, obtains a large proportion of its food from the atmosphere; and being a smothering crop to a much greater extent than any other field crop, the inert vegetable ingredients in the soil, as well as its inorganic properties undergo a mechanical change which eminently prepares it for the succeeding crops, especially those of cereal plants. These considerations in connection with the salutary influence that the millions of large tap-roots have in percolating the ground so as to admit the air into the heart of the active soil by which the floating gases in the atmosphere, produced from decayed vegetable and animal substances, increase the fertilizing properties of the soil, which in connection with the large amount of vegetable manure of a suitable character for the wheat plants that is produced from the roots of the clover, are conclusive evidences, to the mind of any scientific farmer who will take the trouble to investigate the subject, in favor of the system of plowing only one furrow for wheat, where the soil and its previous preparation are of the description here alluded to. To what extent this cheap plan of growing wheat may be extended is difficult as yet to determine, but it is quite certain that extraordinary yields are produced by this method throughout many portions of the best wheat growing counties in Ohio, and when the value of the clover crop for hay or pasturage is taken into account, it brings the cost of producing wheat to a mere nominal standard when compared with the expensive process of making a naked summer fallow as is usually done in New-York and Pennsylvania. Those farmers who have adopted the system alluded to, find no difficulty in getting an average crop of 30 bushels of marketable wheat per acre; and the crop is less liable to rust than by any other system yet practiced. Besides all this, it enables the grower to sell at a remunerative profit, when to others the price of wheat in the markets might be ruinously low. Before closing this branch of the subject it is proper to remark, that the farmers in Ohio are not troubled with wild mustard, Canada thistle, nor wire grass, or in fact any other difficult class of weeds, that so much perplex eastern farmers; and on this account one plowing does the land as much good in preparing it for crops, as two plowings would do in any of the eastern states of the Union, and hence it is only in suitable cases that so cheap a plan could be successfully adopted in the growth of wheat.

In some instances wheat is made to follow the oat crop, in which case the latter succeeds a crop of corn, which if well cultivated leaves the ground in a good condition for oats. Where this plan finds favor, only one plowing is given for the wheat crop, and if the land be tolerably rich, the average product generally equals about twenty-five bushels per acre in favorable seasons. Whilst the land is new and rich, this barbarous system might with some excuse be perpetrated, but, although it may afford a greater immediate return, than those in which green crops are made to alternate with yellow crops, yet in the end it will positively exhaust the soil of its fertilizing properties, and lessen its value quite equal, if not to a greater extent, than if a more rational system of culture had been practiced. A still worse practice than this is adopted by some, who fancy they have some claim to the appellation of scientific farmers. Allusion is now made of sowing wheat after wheat, for a succession of years, by simply allowing occasionally a crop of corn to intervene. The past season thousands of acres were sown in this way, and at the present time, (the 1st of June) a finer prospect for a full average crop could not be desired. On the 1st of July last whilst passing through the wheat belt of Ohio, the farmers were busily occupied in harvesting the finest crop of wheat, that was ever produced in any portion of the Union, a very large portion of which averaged from 25 to 40 bushels per acre; and now whilst passing over the same ground the same broad acres in many cases are covered with the same description of grain, which to all appearance will be equally productive. If such favorable results are obtained by a small outlay of labor and skill, why not continue the practice? In reply, we argue that in rare cases it may be done with impunity for a series of years, but in the main it is carrying out the principle laid down in one of Æsop's fables, in which to satiate avarice, the goose was killed that laid the golden egg. The vegetable is like the animal kingdom, governed by certain unerring laws, and when those are violated, disappointment and suffering must necessarily follow. All vegetable plants require certain organic and inorganic ingredients, to promote and perfect their growth. If the soil contain a very large supply of the requisite food for certain plants, provided it be kept in a proper tilth for those plants, there is no good reason why precisely the same description of crops should not be made to succeed each other for a succession of years, on the same soil. This however is a nice point to ascertain, and as a general thing it is dangerous to adopt it, and in fact we would not encourage its practice under any circumstance, believing that in the end it would be better to pursue a regular course of rotation of crops, allowing wheat, even on the very best wheat soils, to grow on the same land only once in three or four years.

The foregoing is the practice in the counties mentioned, as well as in favorable sections for wheat in other portions of the state. In the southern, central and western range of counties, the almost universal practice is to sow wheat after the corn crop, or with it before it is harvested. Naked fallows are rarely if ever made in the corn and grazing regions of Ohio. On this account a much more slovenly practice of managing the wheat crop prevails where corn and grass are the main dependance of the farmer, than where wheat forms the principal staple. Honorable exceptions, however, are made to this rule in every county and neighborhood of the state, and on the whole it may in fairness to the Ohio farmers be added, that as a class they are anxious to adopt the most approved system of culture, when their merits are fairly brought under their notice.

The past harvest, throughout the whole of the corn growing counties of Ohio, the samples of wheat, whether sown early or late, in good condition or bad, were uniformly heavy and fair; and in many cases the yield was abundant, even when sown after corn, oats and all the other varieties of grain, as late as the last week in November. On the whole, however, those who took pains in preparing the land for the crop, obtained a much larger product than their more slovenly neighbors; and besides it was in better condition for succeeding crops than if a small amount of labor had been expended in preparing the soil for the preceding one. But it is evident, that so long as the fertility of the soil is such, as to secure a heavy crop, with a small expenditure of labor, that only a few can be pursuaded that it will pay cost to adopt more expensive systems of culture. These influences and others of a like character, prevent to a great extent, the adoption of systems of farm management, that in other counties would be considered essential to success. This fact is here mentioned to show that a superficial observer from other counties, passing through Ohio, might err materially in judgment, whilst condemning much of the farming he saw practiced. Much, that at first sight appears objectionable, upon a close examination, is the best that could have been adopted. But nevertheless in many important particulars their is room for improvement, and owing to the mixed character of her people, and the great inducements that are held out for the adoption of every real improvement in the cultivation of the soil, the inference may be fairly made that the Buck-Eye state will not lag behind her sister states in any particular, in engrafting upon her systems of agriculture the improvements of other countries, that would be found applicable for her soil and climate.

It should have been mentioned that in sowing wheat among corn, a practice is obtaining favor, which on level or table land especially, deserves at least a passing notice. The corn is planted in rows about four feet apart, and the hills two feet asunder in the rows, which is worked from three to four times between the rows with a corn plow and cultivator; and from the middle of August to the 10th of September, it is sown with wheat and plowed in, forming neat little ridges four feet from furrow to furrow, which thoroughly carries off from the surface any redundancy of water that might be prejudicial to the wheat crop during the winter and spring months. The corn is not usually cut up till November, and the wheat by being sown early, gets deeply rooted, and the ground becomes thoroughly covered and matted with the plants before the setting in of winter.

The remarks on the subject of wheat culture in Ohio might have been much enlarged, but sufficient has been said to afford the general reader some idea of the most popular modes of culture adopted in this great wheat growing state.

In the next number of The Cultivator, the cultivation and management of the corn crop in Ohio, will form the basis for a few remarks from the pen of the writer of this communication. *Mt. Vernon, Ohio.*

A Sketch of the late Judge Hays.

Editors of the Cultivator—The true republican gentleman, the sound lawyer, the distinguished farmer of South Berwick, Me.,—Hon. William A. Hayes—is no more. We may well mourn his death. Throughout a long life-time, he was a zealous, constant, and efficient contributor to the advancement of the Agriculture of his country. But his bright example lives; and from such a life an influence for good goes forth, mysteriously but surely extending itself, far beyond the limits of a district, or the life-time of a generation. I would in some humble measure aid the progress of that influence; and I now present your readers with a brief sketch of the life and doings of our departed friend.

William Allen Hayes was the youngest of three brothers, children of David Hayes, and was born at North Yarmouth, Oct. 20, 1783. At the early age of nine years, death deprived him of the watchful solicitudes of a mother; and in three years after, of the protection and counsels of a father. The three orphan brothers, the eldest then but fifteen, continued at home, keeping house together without assistant or domestic, William working on the farm in summer, and attending the district school in winter, until, at the age of fifteen, he was invited to become the teacher of that same village school. Having now determined to obtain an education, he commenced a preparation for college under the tuition of Rev. Mr. Anderson, the minister of his native town, amid the labors of the farm in summer, and of school-teaching in winter. In the year 1801, at the age of seventeen, he disposed of his slender patrimony to his two brothers, and with the avails,—far too small to obtain him an education,—he entered Dartmouth college. He struggled along through his collegiate course, partly paying his way and incurring a debt for the deficiency, to be paid in after life. Devoting himself to study with earnest application, he graduated with the highest honors of a class, numbering among its members, Rev. Francis Brown, D. D., afterwards President of Dartmouth College, Rev. Dr. Osgood, an eminent divine of Springfield, Mass., Dr. Wilson, "one of the finest scholars in New-Hampshire," and Rev. Henry Colman, the distinguished writer upon agriculture.

It is gratifying to contemplate the onward and upward course of our poor orphan boy. Early thrown upon a world where good and evil are strangely commingled, he chose the good; the obstacles that met him in his progress forwards he either cast out of the way, or mounted over; a stern discipline habituated him to that persevering industry, that choice and pursuit of virtuous noble ends, that reliance upon personal effort, that decision of character, which, attending him through life, ensured personal success, enabled him to occupy a wide space of usefulness to others, gave constantly increasing value to the progress of that life, and dignity to its close. What a lesson have we here upon the subject of unintermitted personal effort.

Mr. Hayes, upon leaving college, accepted the appointment of Preceptor of Moor's Indian school at Hanover, a classical institution connected with the college. Relinquishing this position at the end of one year, he commenced the study of law, under the instruction of the Hon. E. Whitman, at New Gloucester. In a few months after, he entered the office of Dudley Hubbard, Esq, of Berwick, and after remaining there two years, went to Charlestown, Mass., finishing his studies there under the instruction of Hon. Artemas Ward, afterwards a chief justice of the Common Pleas.

In 1809, Mr. Hayes was admitted to the bar, and entered at once into practice at South Berwick. He soon attained notoriety in his profession, and continued in a laborious and distinguished career for over forty years. Notwithstanding the varied and constant demands of a business larger than that of any other lawyer in the county, or perhaps in the State, he yet found time to engage in various public and benevolent labors. He was for twenty-five years President of the York County Bar, and was one of the founders and the constant generous patron of the Law Library Association connected with that Bar; for about the same time he was President of Berwick Academy, a Classical Institution, which he was instrumental in founding, and towards which, with then very limited means, he subscribed $500; for twenty years he was judge of Probate for York county, in which capacity he is said to have had no superior. He held the office of a Trustee of Bowdoin College for several years, and was one of a board of visitors and examination at the Military School at West Point. He engaged in various other public labors with ability and usefulness, performed numberless acts of private benevolence, and was a marked character in society every way.

As a man of business, Judge Hayes possessed rare qualities. His views were far reaching and comprehensive; he was endowed with superlative good sense, and with sound judgment; his legal learning was solid; he was untiring in industry, and systematic in arrangement of affairs; he had sagacity to penetrate his subject, and power to reduce it to its plainest principles; and by a remarkably simple, direct and decisive manner of reasoning, forcibly impressed his ideas upon the minds of others.

Education found in him a powerful advocate, and fast friend. Having experienced its benefits, he endeavored to inspire all within his reach with a love for sound learning. One of his highest solicitudes for his children was that they should be well educated, as a principal and efficient means of personal respectability and permanent usefulness. He considered no effort too great for him to put forth on behalf of the intellectual culture of his family. Upon the education of twelve children, he expended, of the hard earnings of an industrious energetic life, the sum of $50,000, thus laying them under lasting obligations to use well the advantages so kind a father had procured them, at such cost. His efforts did not end with his own family. He delighted in encouraging poor deserving young men in a course of study, and helped many by communications from his own large experience, and by loans of money. As President of Berwick Academy, he was constantly watchful for its prosperity,—so managing its funds as to make them increase a thousand dollars in his hands,—was solicitous of the welfare of all who came within its walls, personally examined the qualifications of its various teachers and of the successive classes of scholars about departing to higher seminaries, always imparting to them wise counsels and kind encouragement.

Our friend was a great lover of *the useful*, and taught his family to love and seek the same. He was untiring in his efforts to impress the minds of his children with the importance of setting before themselves virtuous useful ends, and of bending every faculty to their attainment; telling them that in the path of duty,—that in duty performed,—they must alone expect that measure of happiness this life can give, and felicity hereafter. It was a favorite maxim, often repeated by him, that "*Doing* makes the man." He would say that *doing*—making earnest effort—strengthens the judgment, enlarges all the faculties,—that wisdom may increase by effort, as well as muscular activity. Another maxim, derived from Solomon, he frequently rehearsed to his sons, with great emphasis: "Seest thou a man diligent in business? He shall stand before kings; he shall not stand before *mean men*." How much of the true patriot, as well as the wise father, was exhibited in the domestic life of our departed friend! Surely there can be no safe-guard to the institutions of our country, at all comparable with such family training. He constantly held up the idea to his children that their future usefulness and success depended upon themselves,—that their characters and standing in life were entirely at their own disposal. He taught them by precept, and also by his own shining example, that education does not end with youth, but is rather the business of a life-time,—that they must be always learning, always seeking for and storing up knowledge, always turning it to useful, practical account. A great writer well remarks,—and we here find a practical illustration of his remarks—"that judicious education anxiously displays to its pupils its own insufficiency and confined scope, and tells them that this whole earth can be but a place of tuition, till it become either a depopulated ruin, or an elysium of perfect and happy beings. Its object is to qualify them for entering with advantage into the greater school where the whole of life is to be spent, and its last emphatic lesson is to enforce the necessity of an even watchful discipline, which must be imposed by each individual *self*, when exempted from all external authority. The privileges, the hazards, and the accountableness of this maturity of life, and the consignment to one's self, make it an interesting situation. It is to be entrusted with the care of a being infinitely dear, whose destiny is yet unknown, whose faculties are not fully expanded, whose interests we but dimly ascertain, whose happiness we may throw away, and whose animation we had rather indulge to revel than train to labor. * * * Everything is education; the trains of thought we are indulging this hour; the society in which we shall spend the evening; the conversations, walks, and incidents of to-morrow. And so it ought to be; we may thank the world for its infinite means of impression and excitement, which keep our faculties awake and in action, while it is *our* important office to preside over that action, and guide it to some divine result."

A lasting monument of Judge Hayes's usefulness may be found in his life as a farmer. He had been settled in the practice of law but a few years, when he purchased 160 acres of land situated a little out from the village, moved immediately upon it, and there reared his family. It is one of the oldest settled tracts of land in that part of Maine; and at the time of his purchase, it was thoroughly worn out, and turned mostly to pasturage. He determined to make it gradually more productive, by steady, but at no time extravagant investments of capital,—a principal and favorite idea with him being to set an example in farming that any man of moderate means and some enterprise might follow with safety and advantage. He once remarked to me, that after his means became ample, he often felt a temptation stealing over him to enter largely into investments for the improvement of his estate; but he had permitted his original idea to prevail, and the farming had not been suffered to run in debt to him. He was a pioneer in his state in what is denominated The New Husbandry,—in the making of compost manures, the systematic rotation of crops, the introduction of improved implements and farm-stock, in reclaiming wild wet land, and in restoring fertility to old worn-out land. He was in the habit of devoting the early hours of day to the farm; and this not only extended his sphere of usefulness, it also added length of life, and enabled him to bring freshness of mind and a robust body to the discharge of professional and other duties. In advanced life, he found high enjoyment and grateful recreation, in surveying the improvements that had been progressing for a life-time, and in carrying those improvements forward to a completion. He went forth to the fields, armed with all the theories of agriculture; and so far as science has yet been able to explain, he could explain the principles by which nature operates; which, added to his own keen perception, and a scrutinizing observation which saw everything, fitted him to be, what he was, a model farmer. Anybody—no matter who—could learn something in a day spent with Judge Hayes upon his farm.

Thoroughness, systematic arrangement, and an adaptation of one thing to another, were characteristics of our friend's farming. He would do things thoroughly on the score of economy, if for no other reason, and in all expenditures for improvements, he looked forward to a course of years, rather than at one day or year. When a few years ago it became necessary to provide more space for the storage of the increasing crops, he erected an immense barn, placing it upon a southern slope, in order to gain warm cellars underneath it for manure and for the root-crops, and warm yards for the stock. The portion of the barn over the cellars was founded upon heavy granite posts, and the remainder upon granite walls. So also in building a grain barn, a sloping site was chosen, in order to obtain a ground story for the storage, without confusion, of carts and all sorts of implements. Here they might always be found, when not in actual use, and of a quality and variety adapted in the best manner to lighten labor, work the ground efficiently, and harvest the crops. A farm-road was early laid out and fenced through the premises, dividing them about midway. At the entrances to the lots on either side from this road, where too many farmers would have placed unwieldy bars, consuming time in their removal, and liable to be often out of order, Judges Hayes hung substantial gates with heavy iron hinges, upon granite posts, and there they have swung for years, without trouble or expense, monuments of economical management. In this strain I might enumerate many other things.

Our friend displayed benevolence as well as calculation in the care of farm-stock. It was his constant study to make domestic animals as comfortable as possible, at all seasons of the year; in summer by good pasturage, convenient shade, and an abundance of pure running water—in winter by stated clock time for feeding,—with a rule that each animal should have enough to eat but waste nothing,—by warm, roomy, well-littered stables with comfortable tie-ups, by warm yards and sheds with pure water in them. The piggery planned by him is not excelled by any in the country, for adaptation to the making of compost, for comfortable cleanly eating and sleeping apartments, for convenience of feeding and for cooking and storing food for the swine family.

Judge Hayes considered the making of manure as *the* business of primary importance, in New-England farming; and that anything which would contribute to that purpose, was not beneath his attention. His industry and care in gathering materials for the compost-heap hardly had a parallel. Bushes of one years' growth, ferns and coarse grasses left by the cattle in the pastures, the wild-grasses of the unreclaimed lowlands, potatoe-vines, leaves from the forest, refuse straw,—in short, all kinds of refuse vegetable substances on or about the farm, were gathered up and taken to the stables and yards, for litter and for manure. From a swamp near by, several hundred loads of muck were annually carted to the barn-cellar and yards, and to the piggery-yards. By this constant vigilance and industry in collecting materials, the annual accumulation of manure was very large, and of course the fields were constantly advancing in productiveness. Indeed it was no part of his farming to allow the land to deteriorate, or even to stand still,—every thing must move onward to a higher condition. Many young farmers, applying to Judge Hayes for advice, were shown how they might three and four-fold their manure heap, and thus improve their land, and enrich their pockets.

The arable lands were put under a regular systematic rotation of crops. The first year of each rotation the land was manured with ten cords of compost to the acre, the sward was nicely turned under by the plow, and some kind of a hoed-crop raised, with clean cultivation. The next year grain and grass-seeds were sown and harrowed in, without disturbing the decomposing sod underneath, and a grain crop harvested. For about four years after, the land produced hay. By this course, together with a steady progress in reclaiming waste wet land, our friend lived to realise an annual crop of over 100 tons of nice hay, from a farm, which, at the outset, only produced forage enough for the wintering of six cattle and one horse.

The farm extends over a high swell of land, of a sandy and gravelly soil, with low-lands of clay soil on one side, and of peaty soil on the other side. Very satisfactory results were derived from the admixture of these soils. Something was done each year at this business, at times when the teams had leisure for it. Many dry knolls have been permanently changed for the better by a covering of clay, and so have the low-lands been improved by a covering of sand and gravel.

Probably no man began earlier, or has done more to improve his pastures, than did Judge Hayes. Some of the lots have been alternately in pasture and tillage, with favorable results. Others have been exclusively devoted to pasturage, and more than doubled in produce by plowing the sward under once in six or seven years, and re-seeding to grass—sowing winter-rye at the same time, to be fed off by the stock while the young grass got root. The quality of the herbage of the pastures has been greatly improved, as well as the quantity increased. On spots where wild plants originally flourished, good sweet grasses have been brought in to take their place.

Judge Hayes exhibited a good specimen of farming upon his reclaimed wet land. A bog-meadow of some 60 acres, in its natural state a wild morass, covered with bushes and worthless herbage, was gradually converted into a beautiful green meadow, producing fine crops of herds-grass and red-top hay. With his ample capital, the work of reclaiming this tract of land might have been completed years ago, and had he consulted himself only, it would have been done; but he determined in the out-set to show a piece of farming here that men of less means might imitate. By a singular coincidence, the last piece of waste land was prepared for producing grass the last year of his life. It was his annual custom to ditch and drain a strip of two rods wide, extending across the meadow, and containing three to four acres; clear it of bushes, hassocks and other rubbish; when frozen on the surface cover it one to two inches thick with fine gravel; manure it, and on a late snow in spring, seed it with herds-grass and red-top. It would produce fine crops of hay for some six years, and then, wild stuff coming in, it was plowed, manured, and re-seeded, and so on with all the reclaimed land. Here is a piece of husbandry that ought to be imitated by hundreds of farmers owning such kind of land.

Our friend planted an orchard of fifteen acres, lying upon a southeastern slope; the trees are now in fine bearing condition, and produce all the choice varieties of the apple which are adapted to the soil and climate. Various other kinds of fruit received due attention. A spacious garden supplied a great varity of table luxuries, and the beautiful flowers found space to grow and luxuriate. Home must be made attractive to his family, and therefore the flowers were carefully nurtured.

But Judge Hayes has gone to his rest. For the last two years of his life he had been sensible of the progress of a fatal disease of the heart, and he prepared himself for the will of Providence. In a conversation with him a year ago, he remarked to me that he desired to be sensible of the many blessings conferred upon him; that he had lived to a good age; had been permitted to see a numerous family mostly grown up around him, and entering with respect, ability and promise, upon their several callings in life, and that he now resigned himself to the will of his God. He expired suddenly, but with calmness and dignity, on the 15th day of April last, aged 67 years. His family derive consolation, as well as a lesson of instruction, from a remembrance of the unruffled cheerfulness and calm dignified-resignation exhibited by him, in view of his approaching dissolution.

In penning this brief Sketch, ambitious language, emblazoning the character of our deceased friend, has not seemed to me at all necessary; a plain rehearsal of his deeds, is a high eulogy. Permit me to express the desire that it may be the glory and blessing of our country to possess many men, scattered all over its surface, showing characteristics like those exhibited in the life of the late WILLIAM A. HAYES. F. HOLBROOK. *Brattleboro, June* 8, 1851.

County Agricultural Institutes.

EDS. CULTIVATOR—There is an important question now loudly demanding an answer from our farming community, from the political economist, and the man of science—What can be done to promote scientific Agriculture? It seems a trite thing to advocate the importance of reform in our practice, and the utility of science as the means of reform. Such advocacy is daily becoming less needed. Much interest has been excited in the matter. Schools are going into operation. Colleges are equipping with agricultural professors. Even the Legislatures of the states and the General Government have been brought to consider the subject. Much has been said, but very little is yet accomplished. All the existing means of education exercise but an exceedingly trifling comparative effect upon our agriculture. Single farms are models, but no district of several thousand inhabitants can be found uniformly presenting an enlightened system of husbandry.

The State Agricultural Schools that are contemplated, promise much to the farmer, and if they are carried into effect with liberal endowment, and an efficient corps of instructors, they will accomplish many things that no other kind of institution can do so well. They will afford greater facilities for experimental agriculture; for testing the inductions of theory, by trials made under competent direction; for advancing mechanical agriculture,—the processes of farming, and for improving the breeds of live-stock. They ought, also, to provide men and means for striking out into the path of discovery, for increasing as well as diffusing knowledge. But we cannot wait for legislative action. Legislatures have too much inertia, are too unwieldy to lead in improvement; smaller bodies, smaller constituencics, must do a present work. It may not be so grand, but it can be more timely. I beg to propose, somewhat in detal, a plan of easy execution, which, though in some respects inferior to government establishments, nevertheless possesses advantages which the latter can never hope to offer. A plan, I imagine, the most republican and effectual that can be adopted, and one beyond the reach of political rapacity. It possesses the merit of having been tested and pronounced good; at least many of its features are characteristic of the Highland and Agricultural Society of Scotland, and the Royal Agricultural Society of England.

Let each county society, if extensive enough, or several if otherwise, re-organise, adopting AGRICULTURAL EDUCATION rather than cattle shows and fairs, as their immediate object; not setting aside the latter, but giving them their proper subordinate rank. The society should number several thousand members; two thousand would be sufficient for successful operations. The officers should consist of a president, vice-president, board of directors, six or eight in number, annually elected, and, according to the amount of funds, one or more professors of agricultural science, with whom might be lodged the duties of secretary and treasurer, or these offices might be designated to another person. The society should possess a legal incorporation as a Scientific Institution, which would enable them to import books, apparatus, &c., duty free.

The money requisite for accomplishing the great object, AGRICULTURAL ADVANCEMENT, is to be furnished by an annual assessment on each member, of one or more dollars, as shall be definitely provided for in the constitution. The disposition of the funds to be controlled by the board of directors. It would be highly advantageous to organise such societies immediately, holding the income for several years, in anticipation of such measures as are about to be proposed.

When funds have been accumulated, an AGRICULTURAL INSTITUTE may be established—a commodious two-story, fire-proof building, adapted to contain rooms for society, hall or lecture room, library, cabinet, offices, and chemical laboratory. I shall notice these departments successively.

The lower story of the building may be mostly occupied with the Society's Hall. It should be large enough to seat several hundred people, and should be fitted up in the best style for a lecture room. It should communicate with the laboratory near the lecture table, be provided also with shelves and cases for apparatus and specimens, and with the furniture necessary to illustrate scientific agriculture. If the Institute is located near an academy or similar educational establishment, it would be proper that provision be made for the annual delivery of a thorough course of lectures on agricultural science, which should be *free to all.*

The room above this would accommodate the library and cabinet. For the library an annual appropriation should be made in addition to a liberal sum devoted at first to the purchase of the existing standard works.

This library should include books belonging to all those departments of science that affect agriculture. The practice of husbandry and gardening in all their branches, including the works of Young, Sinclair, Loudon, Stephens, Johnston, Thaer, Colman, Downing, Thomas, &c. &c. Works illustrating the condition of agriculture in foreign countries—voyages and travels, as the narrative of the U. S. exploring expedition, &c. In chemistry the writings of Berzelius, Gmelin, Liebig, Sprengel, Knapp, Johnston, Norton, &c. The works of Torrey, Gray, Darlington, Eaton, Sprague, Lindley, Hooker, &c., in botany; Lyell, Agassiz, Hitchcock, Mantell, Miller, and the various state geologists, should be represented in their most important productions; Dana, Beck and Alger, in mineralogy; Kollar, Harris, Kirby and Spence, in entomology.

The Natural History of New-York; Transactions of State Agricultural Societies; Journals, including all agricultural periodicals of the United States. Silliman's Journal, Journal of the Royal Agricultural Society of England, Journal of the Highland and Agricultural Society of Scotland, and the more important Chemical and Scientific Journals of Europe, should be found in this Farmer's Library. The cabinet should contain specimens of useful vegetable productions and articles derived therefrom—native and foreign, as seeds, roots, fruits, prepared articles of food, a complete herbarium of native and cultivated plants, special collections of grains, grasses, noxious weeds, &c. Certain animal productions as wool, woolen cloths, skeletons and preparations illustrating animal anatomy and physiology; collections of small animals and insects injurious or useful to the farmer; specimens of soils, marls, clays, peat, plaster, &c.; illustrations of general and special geology and mineralogy; collections of various fertilizers; models of implements, &c., with whatever, of an industrial nature, may be interesting to the farmer.

The Laboratory—the most important of these departments—should consist of several rooms of moderate dimensions, and might very appropriately occupy a high, one-story wing, erected on the end of the main building. It should be fitted up for analytical purposes, with a proper arrangement of furnaces. Shelves, drawers, tables, an unfailing supply of water, and the usual complement of balances, glass, porcelain and platina apparatus, with chemicals, &c.; in short, every convenience for prosecuting chemical research. It should be furnished under the direction of a competent chemist.

The expense of such an establishment would vary with the situation, the size and equipment of the building. It is probable that an expenditure of two thousand dollars, would erect a building, and furnish a laboratory sufficient for the incipient operations of such society. Though much might be advantageously appropriated in furnishing the library and cabinet, they need not at first be put in a state of forwardness. As soon as sufficient means have accumulated, the building should be erected, the lecture room and laboratory furnished, and the other departments filled afterwards by the annual income.

These equipments being provided, it remains to put them into the hands of a competent person, under whose directions they shall work out results beneficial to the society—results commensurate with the expenditure of means and the greatness of the object to be accomplished. Very much depends on the person who is appointed to control the laboratory,—the *chemist* of the society. He is to be the chief means of the society's usefulness. His intellect and labors are to give tone and consideration to the establishment. The society may possess an ample building, a perfect laboratory, a complete library and fine collections: it may furnish abundant funds and exhibit sufficient signs of prosperity, but if it employs a take-it-easy, behind-the-times sort of a man, it might as well dig for coal in New-York as anticipate any good.

A MAN is wanted, one who unites the requisite of the philosopher and the man of business; a man of energy, activity, of profound knowledge in the natural sciences, skilled in the processes of scientific research, of original investigating habits of thought; one who can project and accomplish discoveries; who can increase the means and compass the ends of philosopic inquiry. He should be educated under the most accomplished masters of this and the old world, from those whom the voice of nations has pronounced worthy to judge. He should withal be versed in the practical operations of husbandry, and possess an extensive fund of knowledge in all that relates to the empirical part of agriculture, that he may be able to elucidate and elevate it by science. He should possess the qualities of a good public speaker,—fluency in speech, clearness in explanation, attractiveness in manner; and to crown all his accomplishments, he should ardently love his mission—would it be other than a divine one?—literally "making the desert bud and blossom like the rose."

Could the services of such a man be secured for the society, and he be liberally furnished with the means of investigation, the resulting advantages could be scarcely overrated. His labors would be worth thousands of dollars annually, to the society, in a pecuniary way, while the intellectual waking up that he must necessarily cause, would be attended with blessings which eternity only can estimate. There are certain manufacturing establishments in our country, that pay competent men $2,500 annual salary, and even more, and make money out of them at that. Science is susceptible of as valuable applications to agriculture, as to any other art, and is there any manufacturing company that has so much capital invested, or so great interests at stake, as the farmers of one of our large counties?

But with our full equipment of means, and the secured services of an accomplished man of science, it may be asked, what shall be done? The general statement that science is to be applied to agriculture, is not sufficient. We want something definite. Let us be informed the details of a plan. I may, however, partially satisfy a proper curiosity in pointing out some of the most obvious paths of pursuit that promise important results.

This may be best accomplished by tracing the supposed progress of such an institution. Things must be done by strict system. One of the valuable privileges of the members would be having analyses of their soils, or if natural fertilizers, made at so low a rate as barely to pay the expense. It would be unjust to attempt to furnish analyses without charge, for thus, in one year, the work of a century would present, and confusion and dissatisfaction would follow. The members should consider that there could be no possibility of their receiving less return from the society than the value of their annual subscription, and should wait patiently the judgment of their officers in regard to matters of *general* utility.

Almost the first measure executed, should be the careful and complete survey of the territory covered by the society. This might be carried on before the completion of the laboratory, &c., and should be conducted by the chemist to the society. Its results should be mapped, illustrating the geology of the county, with particular reference to the relations between the transported or disintegrated surface materials—soils; and those *in place*, or rocks. Care should be taken to bring into notice whatever natural fertilizers might be found; particular inquiries should be instituted with regard to the peculiarities of soil, climate, produce, culture, stock, &c. &c. Specimens illustrative of points of interest should be collected for the cabinet, and for laboratory investigation. Advice and suggestions for the guidance of the farmer should be offered, and the chemist should pass from village to village, visiting the farmers at their homes; encouraging them in their pursuits; bringing them to some audience room and giving them evening lectures. He should visit their schools, and urge the introduction of scientific agriculture as an essential branch of study. He should seek out the young who are manifesting eminent intellectual tastes in natural science, and foster and direct their efforts.

He could thus acquire such a knowledge of the natural capabilities of the soil of his district as would aid him in giving advice, and enable him to adopt the best means of benefiting the whole society. He would gain favor among the people, procure many new members to the society, and command for it a degree of confidence and consideration that would prove highly advantageous.

It is obvious that another person, a competent analyst, could be very profitably employed in constant attendance at the laboratory, occupied with analytical investigation. The attention of the professor, (I can think of no other word that is of such general and convenient application,) would be much required, after the completion of the preliminary survey, in lecturing and visiting the various parts of the county, on errands connected with his duties, so that the laboratory operations would not be so rapidly prosecuted as would be desirable, without assistance. This assistance might be furnished by young men of proper ability—such as may everywhere be found—who would be glad to work in the laboratory, receiving instructions in return for their services.

The laboratory should at once be occupied with some leading investigation of general utility. Such as analyses of soils and rocks from the various geological formations; researches for improving the mainly pursued branches of husbandry, as the dairy, or the staple crops, &c. Attention should be directed successively, as fast as possible, to the elucidation of the more immediately interesting points of practice; the action of fertilizers; the best methods of feeding, &c. Subjects for investigation would rapidly multiply. Peculiarities of soil, crop, or manure, would speedily be presented for examination, and all who clearly understand the principles of philosophical research, need not be told how satisfactory and profitable such inquiries must of necessity be. The suggestions of laboratory investigation might be practically exemplified upon the farms of liberal and enterprising members. Plans for experimental inquiry might be distributed, and their successful prosecution be rewarded with premiums.

For the cabinet, collections should be made by the Professor or by competent persons, all subject to his approval. The offer of premiums for special suites of local specimens; for example the native grasses, the wood, flower and fruit of the forest trees. Insects injurious to grains, in all their various stages, &c. &c., would both increase the value of the cabinet, and encourage scientific studies among the young.

In course of time it might become expedient to publish an annual volume of transactions, thus rendering the society's contributions to agriculture permanent and generally accessible.

The annual meeting of such a society would possess unusual interest. The cattle show and fair would necessarily far exceed in attraction those conducted in the usual manner. The dissemination of scientific truth, and the impulse it must give its recipients would crowd these exhibitions with things worthy to be seen. A new standard of agricultural excellence must spring up, and the advance of farming would carry along the farmers. Besides it would be generally understood that in addition to seeing more than the usual sights, many things might be *learned*, thus greatly improving upon the present condition of county fairs. Money premiums, I venture to suggest, should be very rarely awarded. It does not argue very far sighted philanthropy to return to the members of a society the identical commodity that has been collected from them, and of which there is good reason to suppose there is enough left among them. The premiums should consist of something valuable which the farmer would not ordinarily be liable to procure. Books, instruments, new varieties of seed, scions and cuttings of fruit trees, ornamental shrubs, house plants, the services of the society's laboratory, &c. would be most proper. Costly medals are better adapted to tickle vanity than to subserve any useful purpose. In all cases a certificate of award should accompany premiums.

I have thus sketched roughly the outlines of an ideal picture, which I hope, for the sake of American agriculture, may soon find many realizations, each wrought by some master-hand and finished in all its details. I could enlarge upon some points of this plan and introduce others. I might furnish a draft of the building &c. but want of space forbids. I conclude by asking the opinions of practical and scientific men concerning the feasibility of the scheme. SAML. W. JOHNSON, *Dep. of Philosophy and the Arts, Yale College, Ct.*

PROTECTION AGAINST THE CURCULIO. We have heard of some instances where the fumigation of trees with brimstone, seemed to protect plums from this insect. Mr. J. R. HOWARD informs us that Mr. C. H. HALL, of Bluerock, Ohio, has for several years pursued the following with advantage: "He melts sulphur and dips in it woolen rags, which are tied to the end of a pole, and at twilight he fumigates the trees. This he does twice a week, and it is so offensive that the insects leave the orchard. The practice has always been successful."

Breeding Horses.

An article has lately been published in the *Veterinarian*, translated from a French journal, on "Racing considered as a Means of improving the Breeds of Horses for general use and for Military Service." The subject is treated in an able manner, showing that the writer is not only thoroughly acquainted with the principles of physiology, but with practical breeding and the results which have attended the crossing of different stocks. His first position is:

> If racing has shown itself to be the best means of improving our breeds of light or speedy horses, experience has also shown that, as practiced in England, it has operated to a greater extent than might be imagined in destroying the breeds of saddle horses, in times past so much in request for commercial and military purposes.

In reference to this point, the writer discusses at some length the subject of racing,—its ultimate object and the means of attaining it. He notices the fact that the English races were formerly of twice or thrice the length they now are, and that the weights carried were twice as great. But at the present time, the object of racing is "gambling" in the most expeditious manner. He says:

> To the English it matters little what the length of the race is, or the weight to be carried! With them gambling is the object, the bets they make amounting to enormous sums, enriching one and ruining another. This is the kind of spectacle suited to British national taste; and, were it desired, they would speedily invent others of the kind, with other animals, and another order of contests; for they still have their pugilistic encounters, their cock-fights, and their contests between bull-dogs, whose jaws they have singularly brought to a perfection of strength for this express purpose.

He remarks in regard to the common error, that the various breeds of English horses owe their perfection to racing, or to blood derived from racing stock, that each breed has its "peculiar type, which is, or *ought to be* carefully preserved, so as not to be destroyed by injudicious crossing." He thinks this is the plan generally pursued in England. Upon this the editor of the *Veteringrian* remarks—

> There can be no doubt but that the English breeder has a principle or object in view when he sends his mares to particular horses. But, save in the case of the race-horse, which the stud-books preserve genuine, and the cart-horse, whose peculiar character preserves him, a great admixture of breeds is known to take place, which has proved, every horseman admits, of great injury as regards some of our most valued and serviceable descriptions of horses, to wit, weight-carrying hunters, and hackneys, and cavalry horses. The good old sort of those breeds is hardly to he found; while their places are filled either by over-bred horses deficient in power, or by mongrels deficient in blood.

In considering the inquiry whether the English thorough-bred horse is calculated to improve the stocks used for business purposes, and especially such as are required for cavalry, the French writer describes, first, what ought to be the nature and characteristics of the thorough-bred, the manner he is reared, &c.

> Physiology, like experience, demonstrates, in a general sense, that, for the purpose of making the greatest exertions of which he is capable in the shortest possible time, a horse must unite in his own body two indispensible requisites, without which it is impossible for him to become a turf horse. He must, in the first place, possess a nervous, irritable, and highly ardent temperament; and in the second, the construction of his locomotive apparatus should be such, in its mechanical relations, as suits best the race he is intended to run, even though this be at the expense of the strength or the resistance of the apparatus; qualities which are not, in point of fact, required for the speed that is demanded.
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> Convinced of this, the English, so skilled in the art of modifying the nature and conformation of animals according to the purposes for which they are designated, made choice in the first instance, of Oriental blood, as offering the material the best adapted for the model they were desirous of forming. Upon this admirable canvass they subsequently spread their pure indigenous blood, such as it was, taking advantage of every condition conducive to the production of the animal they had in view.
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> But to change the nature of Oriental blood, to instil into it those generous qualities which distinguish the pure English thorough-bred, what acute observation, what study, what perseverance, must have been employed in those artificial proceedings which ought to take the lead in operations so delicate! It not only became requisite to preserve certain qualities of the pure primitive blood, in a climate little favorable to it, but at the same time it was necessary to alter its nature, in order to render it, in certain respects, superior to its original condition. To accomplish this, recourse was had to crossing and paring, always with relàtion to speed, to which every other quality became sacrificed.
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> The produce called for situations of suitable temperature, assisted by woolen clothing, soft flannel, cut to fit every part of the body. Their stables are kept at a temperature of from 60° to 70° Fahr.; are provided with well-distributed apertures; are well combined, with convenient appendages; in fact, provided with every appurtenance required for the accommodation and comfort of horses of every age. Add to this, aliment of the choicest quality, a regimen well seasoned and regulated, exercise under the direction of men kept for superintendence, diligent cleaning and hard rubbing; in fact, a thousand acts of care, dictated by observation practiced every hour in the day, have all equally contributed to the creation and conservation of the English thorough-bred horse.
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> The production of the cavalry horse must differ considerably from that of the race horse, in being more easy, more simple, and especially more economical. A racer must be of a nervous temperament, highly irritable and vigorous, and should be able to call forth all his power and impetuosity in the short space of time in which he is engaged in the race, supposing even that he is fit for nothing after the trial is over. The race is his only sphere; he is not required to serve any other purpose. No matter how useless or helpless he is in other respects, so long as he wins his race he is highly prised, but no longer.

The writer then adduces the results of crossing with thorough-bred horses in many instances, and for many years, in France, in support of the principles he has laid down, and submits the conclusions at which he has arrived. He considers it a settled point that the French cavalry horses have not been improved by the infusion of English blood.

Mr. Percivall, editor of the *Veterinarian*, appends some remarks on the article above noticed, which are eminently worthy of attention by all breeders of horses. In relation to the first position of the French author, Mr. P. observes—

> This is a remark applicable out of the country in which it was made. We are afraid our own land has rendered itself amenable to the reflection. We no longer see in it, or at least nothing like in the same ratio, horses of that useful character for general purposes, which it once could abundantly boast of. On the turf, our King's plate horses, have given place to high-flyers. The hunting field is beset with the same stamp of horse, in lieu of the old, weight-carrying, enduring hunter; our heavy dragoons are under-mounted; our artillery weakly hors-

ed to what they were wont to be; and all because we, in our eagerness to gain possession of blood horses, have lost sight of the really useful and seviceable breed.

Such being, beyond contradiction, the condition of our breeds of horses of the present day, it becomes a duty imperative on us, as it has seemed to be on the French writer, to inquire into the causes of these sad fallings-off in our equine stock; for 'fallings-off,' and grevious ones, they most unquestionably are. In the translated article, from which we have been quoting, it is stated, that the introduction of English blood for the purpose of 'regenerating' their 'old stock' has worked unfavorable changes among the horses in France.

That racing has, up at least to a certain point, been productive of the happiest effects in improving most of the breeds of horses in our own country, is too manifest to admit of a question. To racing, in fact, for our blood stock we owe everything. Our racers are unrivalled. Arabia herself, although their acknowledged parent, can no longer send competitors that can run run with them for the prize of speed and bottom. But, in our fondness for, and eagerness to excel in, so beautiful a breed of horses as the English racer is all over the world acknowledged to be, it becomes a question whether we have not outrun our object, or, in other words, carried what we have all along viewed as 'perfections' rather too far?—sought it at the cost of utility and serviceability? Have we not at the present time more blood-horses in the country than we have ever been known to possess at any former period? And are not the really serviceable hackney, hunter, troop-horse, and harness-horse, in proportion on the decrease? These are vital questions—questions to which we would fain give other answers than such as observation and experiment and truth dictate to us. As we have already hinted, we believe the main cause of this decrease in our more useful classes of horses to be owing to an over-fondness on the part of our breeders for *blood*, to the sacrifice or exclusion of that property which is so necessary to be combined with it, viz. *bone*.

To the preceding observation, we add the following from a late number of the *North British Agriculturist*, in reference to the difference in the points of the Arabian and the English race-horse:

The English race horse differs in some points from his Arabian ancestors—his size has increased from 14 hands 2 inches to 15 hands 8 inches or 16 hands in height, while in his conformation he has become rather narrower over the loins, and longer in the forehand, but he has partially lost the fully developed joints with the sinewy tendons which is one of the characteristics of the pure Arab—he has also lost to a degree the fine intelligent eye and playful docility of the Arab. Many causes have been in operation to produce this change. The alteration of form has been probably effected, with the view of securing greater speed though such a form is less perfect for general purposes. The form of the Arab horse shows a perfection in its proportions which has been hitherto overlooked by physiologists. In numerous measurements which we have made, the superiority of the Arab over the English form was to our mind quite conclusive.

Buying and Selling.—A cotemporary gives the following fine advice on this subject: "If you expect to prosper, never try to be 'sharp for a trade.' Always sell at a fair price, when offered, if you wish to sell at all—never wait for a high one. Sell for cash or sure pay—and not at a high price on credit, at the risk of losing a debt. Always pay a fair price for what you really need—no farmer will prosper in making it an object to purchase below it." To which we may add, that we knew two neighbors, one of whom went for fair prices, the other for shaving. The honest man dealt freely with whom he chose; the shaver was avoided by all;—the one could always hire the best and most trusty hands; the other only the poorest, who could find no other places; the one had many open hearted friends; the other more secret enemies. Which, do you think, passed the most comfortable life?

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Best Cherries.

The *eight* standard cherries recommended by the American Congress of Fruit Growers, were Mayduke, Black Tartarian, Black Eagle, Graffion (or Bigarreau,) Knight's Early Black, Downer's Late, Elton and Downton. Successive years of trial must of course vary or modify this list. There are some new sorts which promise great excellence, and among them, none more than Dr. Kirtland's new seedling, known as *No.* 10. From two years fruiting, we are inclined to place it at the head of the list of cherries for mild delicious flavor. while its early maturity, and large size, and the fine growth of the tree, are great additions to its value. The *Early Purple Guigne*, after many years trial, stands entirely alone as the best very early variety, ripening with the May Bigarreau, to which it is much superior in size and greatly in flavor. *The Doctor*, another of Kirtland's seedlings, is its best successor. This is rather earlier than the Early White Heart, is usually somewhat larger, and decidedly better in quality..

Knight's Early Black, which is larger than Black Eagle and equally good, often proves a scant bearer. The *Graffion*, (known often as "Yellow Spanish,") is also rendered less valuable by its deficient productiveness in many localities. Like the Mayduke, it appears to be peculiarly liable to the attacks of the curculio. During unfavorable seasons, it appears to be unusually subject to decay on the tree. The Elton, although not first in delicacy of flavor, still stands eminent for its fine quality, fine appearance, and great productiveness. In the last named quality it exceeds the Downton, but falls below it in quality. Downer's Late still maintains its high stand for hardiness or unusual freedom from most of the disasters to which cherries are incident, its excellent flavor and prolific bearing. Its only defect is its moderate size.

After all, it will be hard to find any new cherries superior to those old established sorts, the Black Tartarian and Mayduke;—the former for its size, bearing qualities, and agreeable flavor to most persons; and the latter for the unequalled richness of its juice when fully ripened.

For a succession of reliable, productive, and valuable sorts, we do not know that we could at present give a better list than the following:—Early Purple Guigne, Doctor, Kirtland's No. 10, Rockport Bigarreau, Black Tartarian, Elton, Downer's Late, Belle Magnifique. But as some of these may fail in unpropitious seasons, none being wholly secure from accident or disease, a larger selection should be planted where admissible.

Long-keeping Apples.

A great deal of inquiry is made for the best long-keeping varieties of the apple; and the subject is worthy of much inquiry. It is easy enough to have a good supply through winter—a period when the requisite degree of coolness is so easily obtained for the preservation both of the fruit and its flavor. Hence the ease with which even the later autumn apples, may be kept during winter in cool cellars. But on the approach of warm weather, those that escape decay, soon have their flavor and freshness dissipated in the air. A vacancy of many weeks then occurs before the ripening of early fruits, which can be supplied only by long-keepers.

A fruit must possess two distinct qualities for this purpose,—namely, endurance from decay, and retention of flavor. For this purpose we shall probably not soon find any equal to the Newtown Pippin—and next to this are the English and Roxbury Russets. The Northern Spy is a fine keeper, and when preserved in a cool cellar retains well its freshness, even into the first of summer; but later in the season, it loses its flavor while yet retaining its juicy flesh and showy appearance. The *Kingsley Apple*, a new variety, introduced by Dr. Long of Rochester, a small fruit of unusual delicacy of texture, will keep a long time, but it does not usually retain its best flavor long after the approach of warm weather.

For conveyance to distant markets, the Northern Spy does not seem so well fitted as some others, being more liable to injury. This fine apple, in truth, not only needs more care in cultivation than most others, but when gathered, packed and shipped, should be handled with the same care that is given to a fine piece of crockery or a looking-glass.

One of the best long-keeping sweet apples is the *Ladies' Sweet*. We know of no sort which presents so beautiful an appearance by its brilliant coloring late in spring—although in richness of flavor it does not reach the highest point. A drawback is the slow growth of the tree. It is a profuse bearer.

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Fruit Drying Apparatus.

The best means of preserving the *surplus* of the vast fruit crops which will in a few years be raised in all parts of the country, cannot fail to become a matter of general interest. We copy from the last number of the Michigan Farmer, the following description of a *fruit-drying house*, which appears to be a good one, but we would suggest the use of fine netting made of hard-twisted twine, instead of lath screens; and a good ventilator at the top of the building for the free egress of the heated air as it becomes continually loaded with the moisture of the fruit. The free circulation of the air, so essential to rapid drying, would doubtless be facilitated by allowing a space between the screens and the outer wall.

Having a large orchard, consisting of 500 apple trees and 150 peach trees, which have just commenced bearing, I found it necessary to adopt some method to secure my fruit, and drying presented itself as the safest and most profitable way. I built an upright of 9 by 11, 8 feet in height, on a good stone foundation, placing a common 12 light window in one end, and in the other, fronting the house, a door. In the end where the window is I have a chimney. The walls are 8 inches in thickness, arched and plastered inside. The inside work consists of screens, 25 in number, 2 feet 8 inches wide, 12 on each side and one overhead. These are supported by 2 inch square posts in each corner, in which mortices ¾ by 1¼ inch are made to receive a railing to support the screens. The rails are received at the other end in a gane mortice, and may be taken out at pleasure.

The screens are made of wood in the following manner: 3 strips of ¾ by 1¼ to fit the inside, (the one in the middle rendering it stiff.) Across these are nailed small slats, near enough together to retain fruit when dry, thus making a light, stout and durable screen. These are sufficiently large to hold from 1 to 1¼ bushels each, which enables me to put up 30 or 35 bushels at a filling. By means of a large box stove these may be thoroughly dried in 36 hours, and then refilled. The fruit dried in this manner is of superior quality, being much better in flavor, and presenting a cleaner and neater appearance than when dried in the ordinary way.

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Horticultural Memoranda.

Protecting tender Roses.—After trying various modes of sheltering tender roses during winter, including the use of moss, inverted turf, straw, tan-bark covered with boards, &c., none appears to be equal to a covering with the branches of evergreens. Plants but slightly tender need very little shielding in this way; while those the most susceptible of injury should be encased several inches thick. One eminent advantage which this treatment possesses, is the entire freedom from *decay* in the bark and stems of the shielded plants, which sometimes results from other modes. Pine, hemlock, white cedar, &c., may be used for this purpose. Where evergreen hedges or screens have been planted, the shearings or clippings may be employed with great convenience.

Bleeding of Grape-vines.—When the grape is pruned in autumn, in winter, or very early in spring, the sap-vessels will close, and no flow from the wound will follow. But where this needful work has been omitted at the right time, those who have an aversion to prune in consequence of the prodigious flow of the sap which takes place as the buds expand, may save themselves all trouble from this cause by waiting some days till the leaves are as large as a currant leaf. If the pruning is then performed no bleeding will take place. Pruned at this season, we have found young hardy vines to do as well as at any other time. The injury resulting from the flow of sap, is however, overrated; and by some experienced cultivators it is believed to produce no injury whatever.

Remedy for Plum knots.—The old-fashioned remedy, "*to cut and keep cutting*," still proves infallible. Unfortunately, is is very rarely applied, even by those who think they have given it a fair trial. Perhaps the disease has been permitted to advance for two or three months before it has even excited attention. The knife is then made use of and a single operation is regarded enough. No wonder that a remedy, applied in such a burlesque manner, should be considered inefficient. We observe that the application of copperas-water to the wounds made by the excision of the knots on the larger branches, is spoken of highly by different cultivators.

The Cherry Slug.—This larva, which eats the pulpy part of the leaf of the cherry, and sometimes of other fruit trees, is most effectually routed by a sprinkling of *lime*. Air-slacked lime, applied in the dew of the morning, usually accomplishes the desired purpose. Dry, water-slacked lime, taken fresh, is still better, being more caustic.

Pear Blight.—The cause of this disease, like the potato rot, will probably for a long time remain in perfect obscurity; but the remedy where an attack has actually commenced, is plain. Nothing can restore a *diseased* limb, the poison from which often spreads to other parts, and hence the immediate lopping of all such limbs must be resorted to. Discovering some weeks since that a considerable number of pear trees were just becoming affected, the knife and saw were promptly and freely applied, even at some distance below all appearance of blackened bark, although it became necessary to destroy some very fine newly set fruit of rare varieties. This checked at once all progress, and no indications have since appeared. A neighbor, who hesitated a few days in thus "mutilating" some of his favorites, was ultimately compelled to lose nearly the whole of them. The portions cut off were buried in another place to prevent the spread of the infection. In malignant cases, this remedy may prove insufficient, or it may have to be repeated for many successive days. But how much better it is that a tree should fall before the knife, than to perish wholly by blight and spread the poison through the orchard.

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The Curculio—Causes of Failure.

It is more than 20 years since I caught this troublesome insect on sheets, and secured my crops of plums, nectarines, and apricots; and whenever the business has been thoroughly done, I have never been disappointed. An average of about 1,500 curculios, caught in the first ten days of summer, though sometimes rather earlier, have proved a sufficient reduction of the tribe.

This method of protecting stone fruit, I first published in the New-York Farmer; and afterwards I several times introduced the subject into the old Genesee Farmer. Of late, however, I have seen reports of its inefficacy; and as the word "shaking" has been generally used, perhaps the following extract from the latter journal, which I wrote in 1832, (vol. 2, p. 185–6,) may throw some light on the difficulty.

The first statement was dated 6th mo. 7, 1832, and describes the imperfect mode as commonly practiced:—

"On the first day of this month, I observed some curculios on the plum trees in my fruit garden; and not knowing how numerous they might prove, or how much danger was to be apprehended from them, we spread the sheets which we keep exclusively for this purpose, and by shaking, we caught from about fifty trees, more than 30 of those insects. Since that time, on different days, we have made similar trials; but we soon became satisfied that only a few were left; and unless others migrate hither, which the movements of the hogs will be likely to prevent, I think their depredations will be very limited this season."

Three days afterwards I furnished the following statement, containing a very important improvement on the mode before described:—

"Not three days ago, I saw that many of the plums were punctured, and began to suspect that *shaking* the trees was not sufficient. Under a tree in a remote part of the fruit garden, having spread the sheets, I made the following experiment: On *shaking* it well, I caught FIVE curculios; on *jarring* with my hand, I caught TWELVE more; and on *striking* the tree with a stone, EIGHT more dropped on the sheets. I was now convinced that I had been in an error; and calling in the necessary assistance, and using *a hammer to jar the tree violently*, we caught in less than one hour more than 260 of these insects."

Now I should think that these statements would explain all the failures that have occurred in this business. At that time my trees were not large, but they have long since become so; and to attempt to shake them now, or to jar them with the hand, would be out of the question. We only strike them with an axe, and the blows may be heard to a considerable distance. To muffle the pounder to prevent its bruising the bark, would be preposterous in the extreme; for the stroke to be effectual, must be a sharp and sudden jar.*

Some of the success of these operations however depends on the temperature of the weather. Thus, many of these insects fly off in the warmer part of the day, and in the coolest mornings we catch them in the greatest numbers. David Thomas. *Greatfield, 6th mo.*, 1851.

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The Curl in Peach Trees.

It is a matter of doubt with me, whether the *curl* may with propriety be considered a disease. The appearance has become so general that I am almost induced to believe it is so, but *some* circumstances which have fallen under my observation, lead me to a different conclusion. Last season *most* of our trees suffered very much, but slow growing varieties more than others; Tillotson, Noblesse, and a few others of similar growth, presented a *stripped* appearance, and ripened little or no fruit. A very fine tree of Noblesse, standing close by the kitchen door, looked as though it might never leaf out again. Late in the autumn I told the *good lady* having charge of that department, to permit that tree to be the recipient of all her out of door favors, in the form of *mop* water, &c., which is usually the boiling suds from white clothes, in which the new washing preparation, composed of sal soda and lime, had been used. It now is covered with deep green foliage, and loaded with fine fruit. I also observed, that last season a tree of Bergen's Yellow was not at all affected, around which the sweepings of a new cellar, lime, mortar, rubbish and shavings, and all, were heaped up, a foot to eighteen inches high. This year it is *entirely* exempt from the curl. Several other instances of the same kind might be given, showing that good cultivation certainly proves effective. The shortening-in system, when thoroughly performed, has *frequently* been quite successful—and *always* beneficial. With us, the early Barnard has been signally obnoxious to the curl; this has also been the case in several *nurseries* of young trees, containing many of this variety. E. S. *Hillside, Macedon, Wayne Co., N. Y., 7th mo. 1st.* 1851.

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The Large Flowered Bignonia.

The profusion and variety which distinguish the display of flowering plants during the early part of the season, disappear usually by the middle of summer, and a destitution is often felt for the rest of the year. For this reason those which make their appearance late in summer and early in autumn become doubly desirable. Among these are the large flowering Bignonia, (Bignonia *grandiflora*, Techoma *of Juss.*,) which for richness and magnificence is scarcely surpassed at any time of the year. It is a climbing shrub, like the old trumpet flower, (*Bignonia radicans,*) and may be trained in the form of a pillar, or to the face of a wall. As far north as 43°, it is slightly tender, and needs a slight protection with evergreen boughs in winter. If left exposed, the tips of the shoots will be destroyed.

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* The short stump of a sawed limb, to receive the blows, as pointed out on former occasions, has been found best. Ed.

The foliage much resembles that of the common trumpet flower, but is of a much darker green; the flowers measure from three to three and a half inches across the corol, and single racemes are often a foot long. This large size, added to their rich orange color, renders them eminently ornamental and showy. The plant continues to bloom through the latter part of summer and through several of the earlier weeks of autumn.

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Notes on Strawberries.

The garden of R. G. **Pardee**, of Palmyra, N. Y., presented during the strawberry season a display that we have seldom seen equalled. Specimens of Hovey's Seedling weighed half an ounce, and many of the berries of Burr's New Pine were scarcely inferior in size, measuring from four to four and a half inches in circumference. Like nearly all other cultivators, he regards the latter as the best sort decidedly, for home use. Very fine specimens of Black Prince were also grown, but their great size and succulence appeared to be quite at the expense of their flavor. To test the often repeated assertion, that the common wild strawberry, is not excelled by cultivated sorts in quality, a few plants were given a fair trial; but when eaten side by side, they were found inferior to nearly every other sort in the garden, which contained some thirty or forty in all.

The late Strawberry Exhibition of the Genesee-Valley Horticultural Society at Rochester, presented as usual a rich display of specimens. Among them were several of **Ellwanger & Barry**'s new Seedlings, which have now been subject to some years of trial. The most showy is the *Genesee*, of large size, good flavor, and with an unusually brilliant scarlet color. *Monroe Seedling*, is another of decidedly fine appearance. Another, which they as yet call No. 1, possesses the finest flavor of any of their new sorts, and which is not dissimilar to that of Burr's New Pine. These sorts all grow freely and bear well on their grounds, which possess great fertility; their promise of high value certainly entitles them to a fair trial elsewhere.

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Late Apples at the West.

Dr. **Warder**'s Review informs us that at the exhibition of the Cincinnati Horticultural Society, for the display of roses, cherries and strawberries, there were specimens of the Newtown Pippin and Rawle's Jannet, "which were remarkably well preserved and retained a good flavor." These appear to be the two best keeping apples of that region. The warm sun and fertile soil of that part of Ohio, seem admirably adapted to the successful growth of the Newtown Pippin, those we have examined from that region being of finer appearance and of a much better and more matured flavor than any grown in central or western New-York.

Blackhall's Steamed Bone Manure.

Analytical Laboratory, Yale College,
New-Haven, Conn., June 20, 1851.

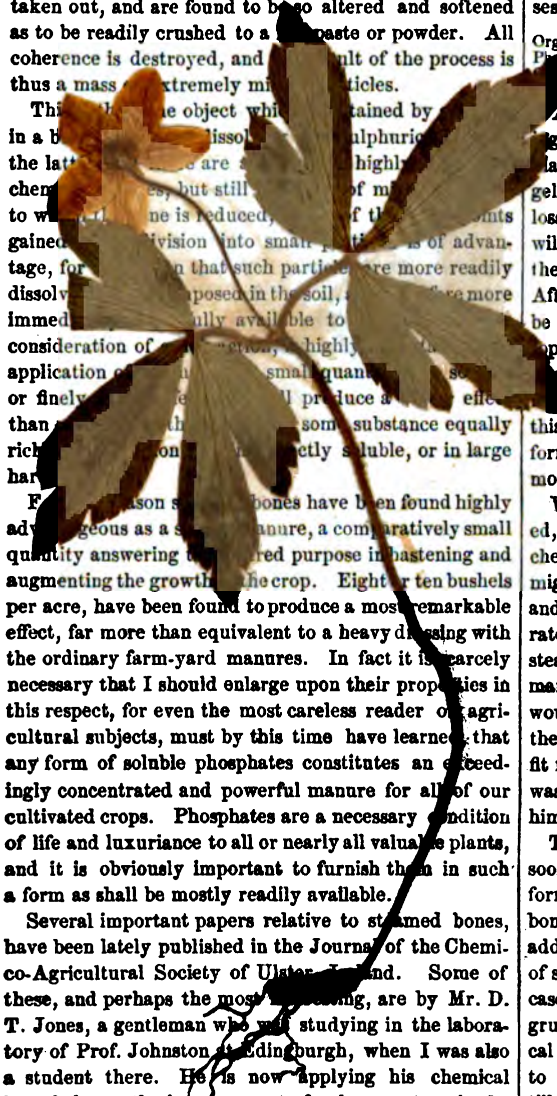
Editors Cultivator—I have written so much on this single topic of bones, that some of your readers may think it worn threadbare. But while I see the great apathy which still prevails among farmers as to their use, when I consider the enormous waste of them which still occurs in almost every district of our country, I feel that I have not said and cannot say too much about them.

It must be acknowledged that there are practical difficulties of some consequence, in the employment of bones as a manure on ordinary farms. If applied whole the quantity required to produce much effect is very great, not less than from 50 to 80 bushels per acre. Crushing or cracking them by hand is a very slow and imperfect process, which soon leads to discouragement if the collection be large. Mills for grinding bones are as yet few, and bone dust as an article of [illegible] chiefly confined to the large towns, and must be transported often to a great distance. The easiest way to bring bones into a proper shape for application to the land, and at the same time the most effective and economical method is to dissolve them in sulphuric acid. This is a simple process enough, but I know from frequent experience that it appears very formidable to the farmer who is not accustomed to novelties. He is afraid of the strong acid; perhaps has some difficulty in finding it at all in his neighborhood, and is often finally discouraged into letting the whole matter stop by one or two failures in his first attempts. No description of a process can avoid every possible source of error, and unpracticed manipulators are pretty sure to make some mistakes, when they meddle with chemicals for the first time. Those who have more faith and perseverance do not give up at the first ill success, but try again, and always reap a reward for their good courage. Such however are comparatively few, and the number of those who shrink from any effort whatever, is greatest of all.

In view of the dread which farmers have of this method, I take up for the subject of the present letter, the process of dissolving bones by steaming, a process which has lately excited much attention in Great Britain. This process has already been mentioned in your columns on one or two occasions, but I have thought that a more extended notice might possess a considerable degree of interest. I have at various times within the past year or two, received letters from Scotch and English friends speaking highly of steamed bones, and the subject has also been fully discussed by the agricultural papers.

In the Farmer's Guide, just published by the Messrs. Scott of New-York, a full description is given of the process, with plates of Mr. Blackhall's apparatus. I will here mention the general principles of his plan. Any old boiler of small size will answer for this purpose. It is fitted so that a considerable charge of bones may be placed on a grating in its upper part, and there be exposed to the full action of the steam. The lower part of the boiler is filled with water, and then all that is needed is a fire, and a safety valve to make sure that the pressure of steam does not become so great as to endanger the safety of the boiler.

If the charge is introduced in the morning, steam is kept up through the day, and the boiler left to cool off at night. On the succeeding morning the bones are taken out, and are found to b[illegible]o altered and softened as to be readily crushed to a [illegible] paste or powder. All coherence is destroyed, and [illegible] ult of the process is thus a mass [illegible] xtremely mi[illegible] ticles.



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F[illegible] son s[illegible] bones have been found highly adv[illegible] geous as a s[illegible] nure, a comparatively small quantity answering t[illegible] red purpose in hastening and augmenting the growth [illegible] he crop. Eight or ten bushels per acre, have been found to produce a most remarkable effect, far more than equivalent to a heavy dressing with the ordinary farm-yard manures. In fact it is scarcely necessary that I should enlarge upon their properties in this respect, for even the most careless reader of agricultural subjects, must by this time have learned that any form of soluble phosphates constitutes an exceedingly concentrated and powerful manure for all of our cultivated crops. Phosphates are a necessary condition of life and luxuriance to all or nearly all valuable plants, and it is obviously important to furnish them in such a form as shall be mostly readily available.

Several important papers relative to steamed bones, have been lately published in the Journal of the Chemico-Agricultural Society of Ulster, Ireland. Some of these, and perhaps the most [illegible], are by Mr. D. T. Jones, a gentleman who was studying in the laboratory of Prof. Johnston at Edinburgh, when I was also a student there. He is now applying his chemical knowledge to the improvement of a large estate in the west of Ireland.

He has made some experiments on the actual cost of the process, counting in the price of the bones, of the fuel, of labor, &c. His boiler held 7 cwt., and the results were taken from five successive charges. Bone dust cost £6 12s. or about $30 per ton, while a ton of raw bones cost but £3 or about $15. The additional expense of steaming, was a little less than $1. For a trifle more than half then, he obtained by the steaming process a ton of bones far more finely divided, and consequently more immediately beneficial, than bone dust. Other writers give almost equally favorable results.

The advantage of economy then, seems clearly to rest with this process. The question arises, however, is there any loss of valuable substance. With a view to settling this question, Mr. Jones has lately made some direct experiments. Dr. Voelcker, of Cirencester Agricultural College, analysed some specimens of the steamed bones as prepared by Mr. Jones, for the express purpose of comparing them with bone dust. The following analyses give his results:

	Steamed Bones.	Bone Dust.
Organic matter,	28.68	35.25
Phosphate of Lime,	57.73	54.00
[illegible]onates and Alkalies,	4.29	1.49
[illegible],	9.30	9.26

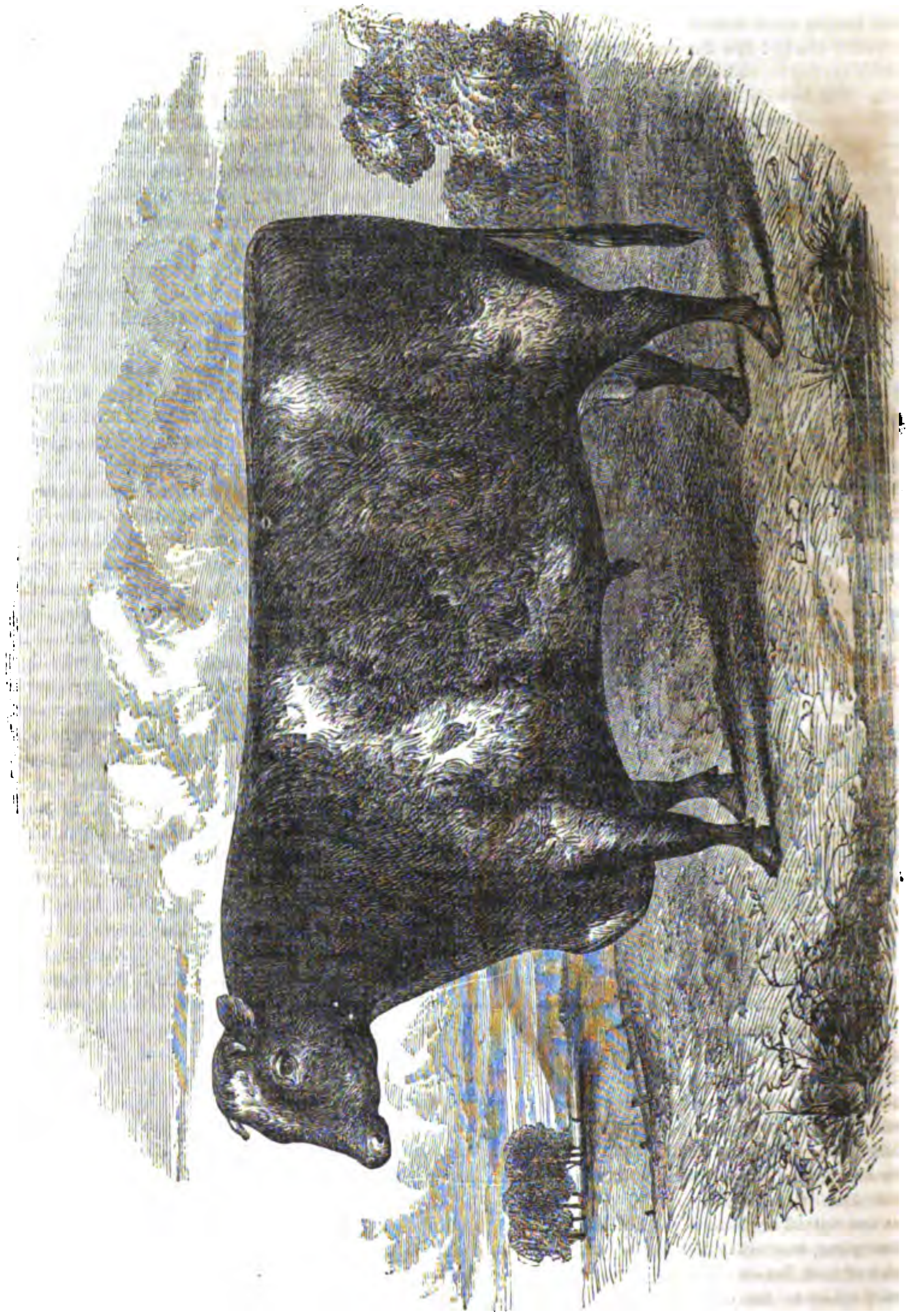
A comparison of these two analyses shows, that during the steaming a loss of organic matter has taken place, amounting to nearly eight per cent. This is the gelatine of the bone, dissolved out by the steam. This loss is however only apparent, as a moment's reflection will show, that this dissolved gelatine will be found in the water that occupies the lower part of the boiler. After one or two charges therefore, this water should be drawn off, diluted with fresh water, and applied as a top-dressing upon meadows or young grain. The gelatine being a highly nitrogenous, and therefore valuable manure, produces an excellent effect when applied in this way. If not convenient to use this solution in a liquid form, it may be mixed with peat, ashes, vegetable mould, &c., or added to a compost heap.

We thus see that every portion of the bone is preserved, and made useful as a fertilizer, and that too by a cheap process. Some farmer in each neighborhood might set up such an apparatus at a trifling expense, and supply the whole adjoining country at reasonable rates. Or an association might do the same thing, each steaming his own collection of bones in turn. By managing in this way the expense to each individual would be quite small, and all the bones got together in the course of a season could soon be brought into a state fit for use. They are now so commonly disregarded and wasted, that in most situations a farmer might possess himself of large quantities for a merely nominal sum.

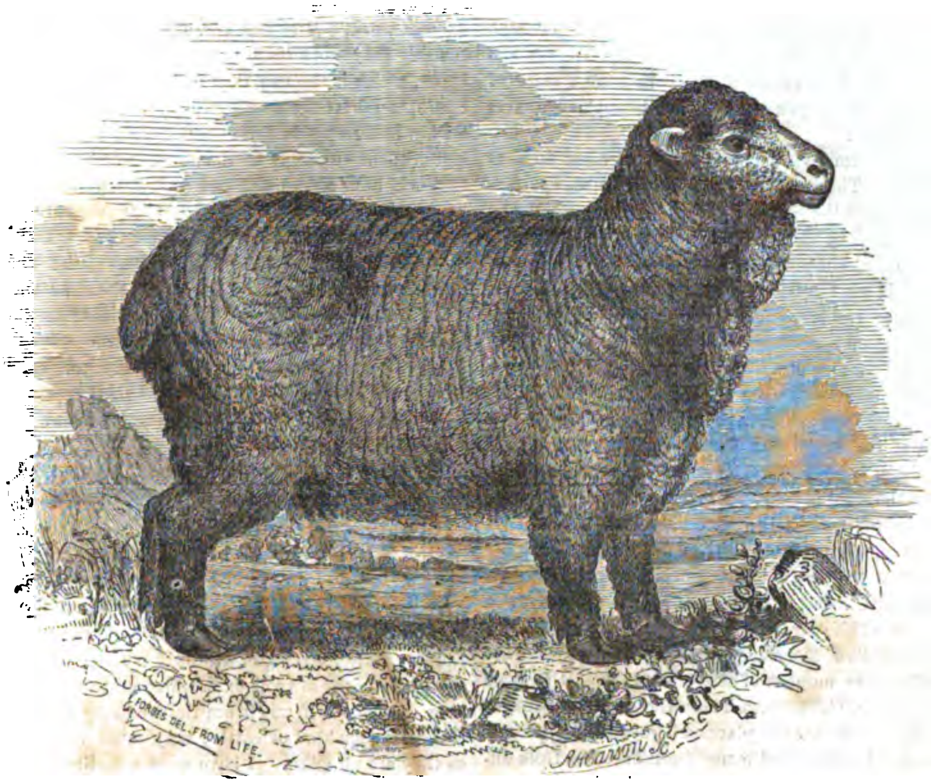
The crushed mass of steamed bones, if left to itself soon heats and ferments, causing a loss of nitrogen in the form of ammonia. To prevent this in cases where the bones are not to be used at once, it is recommended to add a little salt; this arrests decomposition, and is itself of some value as a manure. It also serves in many cases as a check to injurious insects, by destroying their grubs. Where it is desirable to add a highly ammoniacal and energetically acting manure, it is only necessary to withhold the salt, and allow fermentation to go on till ammonia begins to be largely given off. The heap should then be mixed with gypsum, peat ashes, or charcoal dust. This applied to the soil will act as quickly and powerfully as guano, with the advantage of a far less price. From six to ten cwt. of these bones would produce more effect upon most of our crops, than a very great application of farm-yard manure, and being so portable might often be employed with a very great saving of expense. I think that the addition of 8 or 10 lbs. of sulphuric acid to each 100 lbs. of this manure, would be a still farther improvement.

This method seems to me remarkably feasible, simple, effective, and cheap, and I hope that this notice may induce some of our more enterprising farmers to try it, and to make their success public. The apparatus need cost but little at first, and the same boiler might be employed to steam food for stock in winter. Yours truly,

John P. Norton.



SHORT-HORN BULL EARL OF SEAHAM.—(*For Pedigree, &c., see p.* 278.)


FORBES DEL. FROM LIFE.
AHearson Sc.

A SILESIAN MERINO EWE.

Notes of a Tour in Europe.

The above figure is a portrait of a Merino ewe, procured in Silesia, by **Wm. R. Sanford**, Esq., of Orwell, Vt. It is one of the lot noticed in our current volume, p. 218. We have received from Mr. S. the following notes in relation to his tour through Europe for the purpose of examining and purchasing sheep. In the present chapter we have the results of his observations in regard to France and Spain; in a future number he will furnish those relative to the various German states through which he passed.

Editors Cultivator—In compliance with your request, I will endeavor to give a short account of a tour in Europe. I sailed from New-York, Jan. 24, in the packet ship Splendid, for Havre, France. We had three days of pretty rough weather; the rest of the time quite fine. We had a passage of 24 days. I was very seasick about half the way, which was anything but pleasant, I assure you. Mr. Greely has pictured it very fairly in his description of crossing. Havre I found to be a very busy place, as of course it must be, it being the great shipping port of France. One of the first things I noticed, was the horses that they work in their carts; they were very large and strong built, and carry enormous loads with them. I think they are preferable to any I ever saw for draft-horses, especially for cart horses for our cities. I had to stop one day in Havre to get my luggage through the custom house, and my passport vised, which is a very great annoyance. I started from Havre at 11 o'clock, A. M.—arrived at Paris 5 P. M. The railroad runs a good part of the way up the valley of the Seine—most of the way a beautiful country, and in a good state of cultivation. They were plowing and sowing their spring wheat. The plows are cumbersome and awkward things. They have long beams—the fore-end of the beam mounted upon a pair of wheels about half the size of a wagon wheel. Paris is a splendid city, so far as outward show is concerned. There appears to be very little business done in comparison with our cities. I shall not attempt a description of the city, as my business was to see the stock of the different countries I visited.

The first flock I visited was Mr. Gilbert's; he has not only a good flock of sheep, but good horses, and some fine cows. He keeps about 25 cows; some of them have the appearance of being fine milkers; they are well cared for, and are in fine condition as well as the rest of his stock. He has good warm stables for all of his stock. Nothing is left out, unprotected. In fact it is the custom through France and Germany to shelter their stock in the winter season. He appears to be man of a good deal of intelligence and a good farmer. I found him to be kind and obliging. After looking over his stock, he took me a few miles from his place to see the agricultural school at Gruno. It is a government establishment. They have a large farm connected with the school, and are breeding most kinds of stock. Their policy is to cross every thing in the sheep line. They are making a cross between English and Merino. They have English ewes and Merino rams. Of cattle they have almost all kinds—French, English and Swiss. Their bulls were mostly

Swiss, of good size and pretty well formed, but bad handlers. They have some very good hogs of the English breed, and were making a cross of the English and Chinese. The farm appeared to be in a high state of cultivation. Great pains were taken to make and save all the manure.

The next farm I visited was the government farm at Rambouillet. The stock here, is principally sheep. It is the place where the Spanish sheep were first placed, and have been bred by the government ever since. There is a palace there, but not in a very good state of repair at present. It was formerly quite a favorite place of resort as a summer residence for the Kings of France. The Director was very courteous, and took every pains to show the sheep, samples, &c. They have samples of every sheep that they have sheared since they commenced. Everything is done systematically. They have paintings of most of the bucks that have been used. The form of the sheep is not as good as some other flocks that I saw, but the wool is finer. The director gave me some beautiful samples. They sell only once a year, and then at public auction. They sell all the bucks that they raise in that way, except such as they reserve for their own use, and ewes, if they have any to spare. They sold no ewes this year.

I next visited Monsieur Cughnot's farm, who has about the same number of sheep, and about the same quality of Mr. Gilbert's. These three flocks stand at the head. They are the places where almost all resort for bucks. I met a good many sheep breeders from different sections, at those places, buying bucks. February is the month in which they generally select their bucks for the next season. They universally admitted that Messrs. Gilbert and Cughnot had the best sheep in France.

On returning to Paris, I fell in with Mr. George Campbell of our State, who was on the same business that I was, (after sheep.) We therefore concluded to travel together, and purchase in company. We concluded to go to Spain first, as that was the place where the fine sheep came from, and see what we could find. Started from Paris Feb. 4th, went 150 miles by railroad to Tours. The country, a good part of the way, quite poor; saw very little stock. We passed several miles through a valley, I should judge from 6 to 8 miles wide, with a continuous village at the foot of the hills each side of the valley. The valley is meadow and pasture; the hills are planted to vines. Every few rods is a wine vault, all the way. At Tours we took the diligence—found beautiful roads and quite level. The roads are in perfect repair; they keep stones by the side of the road, broken fine, and persons all the while on the road to keep in repair. As soon as they begin to wear down in any place, they put in some of this broken stone. The road will be as straight as you can draw a line as far as your eye can extend. In the south part of France and north part of Spain, they have trees planted each side of the road; many of them have got to be of good size, and form a beautiful shade; they are generally poplar. They drive from 5 to 6 horses—three abreast—go at the rate of from nine to ten miles an hour. Their horses are large, and generally in fine condition. They are a very strong, hardy race of horses. As you approach towards the south of France, you begin to see oxen at work. The first I saw were poor and small; the way they work them is to lash a stick back of their horns, which is the way they do all through France and Spain, and drive them with goads. I never saw them use a whip in Europe, to drive oxen. They take no pains to match them either as to size, color or sex; sometimes they will have an ox and cow yoked together. As we go south, we found the vineyards more extensive and the vines larger; they were trimming the vines. They keep them headed down to about 2 feet high; they bind the parts they take off into bundles for fuel; some they cut close to the main stalk, and others they leave about 3 feet long. They plant them out in different ways; some times they occupy all the land. They put the rows from four feet to four rods apart; when they do not occupy all the land, they till it between the rows; a good share of it was in wheat.

We arrived at Bordeaux, at 8 o'clock, 2d day. It is the second city in France. Its principal trade is wine and brandy. We started from Bordeaux at 8 o'clock next morning—arrived at Bayonne at seven the following morning, 175 miles. The country, part of the way from Bordeaux to Bayonne, is poor—some of the way a perfect desert; and the inhabitants look as poor as the country. After leaving Bordeaux, I noticed that they had the inside horns of their oxen sawed off to about 4 inches long. About half way from Bordeaux to Bayonne we found another kind of cattle; they must be well bred, as they are all alike. I have seen sometimes 20 yoke, I should think, in a string, and any two of them would match. They are not large cattle, but well formed, tight snug built—a yellow red color, with horns about medium length, well formed, and stand about right—we found this kind of cattle for about 100 miles in the south of France, and about the same distance in the north of Spain. They make fine oxen, but what the cows are for milk, I did not learn. The women do most of the marketing in France. In the morning at Bordeaux, and the same at Bayonne, the roads were full of women, carrying their stuff to market; some with mules, but more with donkeys; their stuff put in baskets and slung on each side of the donkeys, and would weigh often more than the donkey. But the greater part carry their vegetables, fish, or whatever they have to carry to market, in baskets on their heads. The diligence starts from Bayonne for Madrid. We had to stop over one day to get our passports vised. We entered the Spanish territory about 25 miles from Bayonne. A small river divides the two countries; the French flag is flying on one end of the bridge, and the Spanish on the other—we had to have our passports vised by the police on leaving France, and again on entering Spain. The country we passed the first day was very good; they raise large quantities of turneps, which stand in the field through the winter. We came to the mountain about dark. They had to put on oxen in two or three places to draw up the diligence. They drive principally mules in Spain—usually from five to nine. They are very cruel to the mules, the whip being in almost constant use, sometimes by two drivers, one on the box and another along side a foot. I have seen these Spaniards run 2 or 3 miles at a time by the side of the mules, on a full gallop, whipping all the time. A good share of the way after striking the mountains, the country is miserable, and the inhabitants more so. If any one wants to see poverty, let him travel through Spain. I have counted ten beggars at one time around the diligence; they are at all the stoping places, and at hills where they have to walk the team you will find them stationed. Everything is done in Spain, I should judge, as it was a thousand years ago. A great share of the stuff goes to and from market on the backs of mules and donkeys. As you get near Madrid, the road is full of them. Saw very little stock on the way but sheep, and they of a very inferior kind. In the north of Spain and south of France, they have the poorest sheep that I ever saw. In many of the flocks two-thirds of them will be black—their sheep are small, with coarse wool, and ill-formed.

The tools used here are very rude and clumsy; their plows are a crooked stick, the mortice through the upright part, just in the turn, and put through a piece of iron which runs along the top of the lower part, an inch or two beyond the point of the wood. With this apology for a plow, they scratch up the ground. In some parts of Spain I saw fine looking crops, cultivated in this miserable way, and without manure. Very little use is made of manure in Spain, except to burn the land. The land must be very strong and rich to bear such crops with such cultivation, and without manure. We were three days and two nights from Bayonne to Madrid.

We called on our minister at Madrid, and found him very ready to do all in his power to assist us. He is a gentleman well fitted for the place, and is very much respected. On inquiry, I found most of the sheep owners lived in Madrid; but the sheep were about 200 miles from Madrid, in Estramadura, in their winter pastures. I became pretty well convinced before leaving Madrid, by conversing with the sheep owners, that we should not find anything that we wanted. Some of them admitted that their sheep were much degenerated, and they were thinking about taking some measures to improve them. They said they were going to Germany to get bucks. All said that their sheep were not as good as they were before the French invasion—that they have no standard flocks to resort to for good sheep, as they had before these good flocks were broken up. But as we had gone so far, we concluded we would go and see for ourselves. When we examined the flocks we found them about as we expected. The sheep, as a general thing, are small—no wool on their legs, and very light colored—occasionally there would be a good looking sheep in the flock, bearing some resemblance to those that were formerly brought from there, but with no fixed characteristics. I should not dare to breed from them, as there would be no certainty in breeding from such animals. I did not see a sheep in Spain that I would pay the transportation on to this country.

Estramadura is one of the wildest parts of Spain, and is rather a hard place for an American to live. Everything is cooked with garlick and oil. It is a great place for Olives, thousands of acres being covered with the trees. They raise a good many hogs in this part of the country. I have seen sometimes 200 in a drove, all black. They are never fed, and are kept by shepherds, the same as their sheep. They get fat in the fall on olives and acorns. There is a good many coarse sheep in this part of Spain. They raise this wool for their own use. They manufacture their own cloth, both wool and linen. Their process of doing it is very slow. I saw them getting out and spinning flax. It is all done by the women. They use no brake in getting out their flax, it being all done by the swingling knife. The spinning part is done wholly with the hands. They take a stick about three feet long, tie the flax on to one end; the other they hold under the arm, and pull out and twist with the other hand. It hardly seems credible that people will live and do as they do. There are large villages where you cannot find a light of glass. They have only one door to their houses, and everything goes in and out at that door. The stable is in the back part of the house, and the animals have to pass in at this door, and the manure out the same way. After looking among the sheep till we became satisfied that there was nothing that we wanted, we put back for France. Resp. yours, W. R. Sanford. *Orwell, Vt., June* 24, 1851.

Sales of Live Stock.

The sales of stock advertised by L. G. Morris, Esq., of Fordham, Westchester county, and George Vail, Esq., of Troy, took place according to appointment. Mr. Morris's was on the 24th of June. The weather was fair, and there was a large attendance of people. The beautiful lawn in front of Mr. M.'s residence was divided into lots with iron hurdles, and the cattle and sheep to be sold, were brought there in the forenoon, for examination. The stock was generally in good condition, though not in high flesh. At one o'clock the large company was invited to a sumptuous repast, comprising the substantials and many of the delicacies of the season. Soon after this the sale commenced. The bidding was generally brisk, and the animals were speedily disposed of at prices as per following list—which, considering that the larger portion were what are called "grade" stock, may be deemed quite satisfactory. It will be understood that Mr. Morris intends to establish himself as a breeder, and this sale should rather be considered as a preliminary step to that object. He has still in his possession that portion of his herd which he designs as a breeding stock. These consist of selected individuals of the Short-horn, Devon, and Ayrshire breeds, each of which are to be bred pure, under his special care.

The stock sold consisted of

THOROUGH BRED SHORT-HORN, COWS, HEIFERS AND HEIFER CALVES.

1. York, Gen. Gadwallader, Philadelphia,	$110 00
2. Cleopatra, 9 years old, Gen. Cadwallader,	85 00
4. Coquette, 4 years old, Edward H. Smith, Smithtown,	50 00
5. Red Lady, 4 years old, Gen. Cadwallader,	175 00
6. Eleanora, 4 years old, Gen. Cadwallader,	135 00
8. Miss Rolfe, 2 years old, A. Van Ingen, jr.	105 00
9. Fame, 16 months old, Gen. Cadwallader,	60 00
10. Red Rose, 15 months old, G. Hopkins, Long-Island,	30 00
11. Kate, 5 months old G. G. Hubbard, West Needham, Mass.,	140 00
12. Lily, 3 months old, Joel Terrill, Oswego,	80 00
13. Beulah, 2¾ months old, Gen. Cadwallader,	56 00
14. Pocahontas, 11 years old, Henry Parsons, C. W.,	100 00

IMPROVED DAIRY STOCK.

Cows, Heifers, and Heifer Calves.

15. Beauty, 6 years old, Dr. A. Smith, New Rochelle,	105 00
16. Sue, 8 years old, Richard Lewis, N. Y.,	100 00
17. Watson, Henry Parsons,	80 00
18. Strawberry, Gen. Cadwallader,	75 00
19. Bess, 6 years old, G. Hopkins,	65 00
20. Gazelle, 4 years old, G. W. Thacher, Pelham,	105 00
21. Alarm, 3 years old, John Rae, Morrisania,	37 50

22. Lady Independence, 3 years old, Robert Segoin, Richmond county,	67 50
23. Miss Stewart, 2 years old, Jas. Robertson, Peekskill,	70 00
24. Harlem Maid, 2 years old, Gen. Cadwallader,	75 00
25. Lady Canning, 2 years old, G. G. Wilmerding, Suffolk county, L. I.,	120 00
26. Marietta, 2 years old, Gen. Cadwallader,	70 00
27. Sabina, 2 years old, Dr. Smith,	77 50
28. Miss Mary, 19 months old, Robt. Segoin,	75 00
29. Bessie, 18 months old, J. J. Mapes, New-Jersey,	35 00
30. Clara, 14 months old, Robt. Segoin,	30 00
31. Laura, 9 months old, Gen. Cadwallader,	30 00
32. Lucy, Gen. Cadwallader,	37 50
33. Helen, 3½ months old, Morris Ketchum, New-York,	100 00

Short-horn and Ayrshire Cross.

34. Countess, 4 years old, Gen. Cadwallader,	82 50
35. Jeannie, 2 years old, Morris Ketchum,	90 00
36. Betty Merryman, 9 months old, P. R. Paulding, Tarrytown,	60 00

Nearly Thorough Bred Dutch.

37. Julia Edgar, Lewis Livingston, Rhinebeck, Dutchess co.	120 00
38. Dinah, Lewis Livingston,	37 00
39. 1 yoke of oxen, S. T. Wright, Morrisania,	145 00

Bulls.

Thorough-Bred Short-horn.

1. Logan, 23 months old, Oliver Slate, Jr., Pelham,	175 00
4. Mark Anthony, Jas. B. Wilson, East Troy, Wis.,	135 00
5. Passaic, 2 months old, Joel Terrill,	50 00

Bulls slightly crossed with Amsterdam Dutch.

6. Pontiac, 15 months old, J. G. Goodwin, Kingsbridge,	70 00
7. Red Rover, 5¾ months old, T. Rives, Virginia,	105 00
8. Medley, 11 months old, Ed. Biddle, Morristown, N. J.	65 00

Pure Bred Devon.

10. Barton, 17 months old, Gen. Cadwallader,	145 00

Buck Lambs.

1. Buck lamb, 3 months old, Aaron Clement, Philadelphia,	30 00
2. do 2½ months old, Ed. G. Faile, West Farms,	30 00
3. do 3¾ months old, Lincoln Brooks, Providence, R. I.,	30 00
4. do 3¼ months old, Gen. Cadwallader,	30 00
5. do 2¼ months old, Gen. Cadwallader,	25 00

Swine.

The following pigs were dropped from 7th to 10th April last.

1. One pair of pigs, Henry Parsons,	37 50
2. do Gen. Cadwallader,	30 00
3. do Churchwell,	30 00
4 and 5. Two pair of pigs, G. G. Hubbard,	50 00
6. One pair of pigs, Capt. Spencer, Westchester,	20 00
7. do Thos. Hancock, Burlington, N. J.,	20 00
8. do Henry Parsons,	30 00
9. do Aaron Clement,	27 50
10. One boar, Lewis Livingston,	17 00
11. do Gen. Cadwallader,	17 00
12. do Jas. B. Wilson,	17 00
13. do Thos. Hancock,	16 00
14. do Lincoln Brooks,	16 00
16. 1 sow, 9 months old, G. G. Hubbard,	30 00

From the foregoing it will be seen that the pure bred bulls and bull calves, four in number, averaged $126.12 per head. The Improved Dairy Stock, consisting of cows, heifers, and heifer calves, twenty in number, averaged $78.87 per head. Grade bull calves, three in number, averaged $80 per head.

Suffolk pigs, twenty-three in number, dropped from the 7th to 10th of April last, averaged as follows:

9 pair averaged per pair,	$27 23
5 boar pigs, per head,	16 60
1 sow, in pig,	30 00

South-Down ram lambs, dropped from 21st March to 19th April last, averaged, per head, $29.

Mr. Vail's sale took place on the 26th of June. The attendance was not so large as at Mr. Morris's, though there were, perhaps, as large a number of persons who came to *buy*. The weather was highly favorable, and the company began to assemble at an early hour, and were engaged in examining the stock till noon, when they were invited to refreshments,—tables for which, bountifully loaded, were set in the house, and in the delightful grove which surrounds it. While the company was thus engaged, the cows and heifers were brought up and tied round a circle prepared for the purpose in the grove. The cows were sold first, and when the first one was brought to the hammer, it was evident that many of the by-standers were not mere lookers-on. The competition for the best animals was decidedly sharp, and the sale of the animals advertised, with the exception of one which had died, (Duke of Wellington,) was speedily wound up, as follows:

Statement of the Sale of Mr. Vail's Short-horns, June 26th, 1851.

Cows and Heifers.

1. Lily 2nd., (six years old,) Gen. Cadwallader of Philadelphia,	$170
2. Lily 3d., (three years old,) Henry Wells, Aurora, N. Y.,	135
3. Lily 4th., (about eighteen months old,) Gen. Cadwallader,	90
4. Lily 5th, (calved 19th March, 1851,) Gen. Cadwallader.	165
5. Fun, (seven years old,) Henry Wells,	235
6. Dahlia 5th., (two years old,) Gen. Cadwallader.	75
7. Eunice 2nd., (ten years old,) Gen. Cadwallader,	160
8. Eunice 3d., (eight years old,) John Osborn, Marshall, N. Y.,	125
9. Wild-dame 4th., (three years old,) Gen. Cadwallader,	225
10. Wild-dame 6th, (calved 20th Feb. 1851—sick,) Gen. Cadwallader,	55
11. Daisy 3d., (seven years old) S. P. Chapman, Clockville, Madison Co., N. Y.,	220
12. Daisy 5th., (about twenty months old,) Gen. Cadwallader,	130
13. Fillpail 5th., (about twenty months old,) Gen. Cadwallader,	95
14. Victoria 4th., (four years old,) Henry Wells.,	90
15. Rosette 2nd., (four years old,) General Cadwallader,	175
16. Rosette 3d., (about twenty months old,) William Osborn,.	80
17. Rosette 4th., (about ten months old,) Gen. Cadwallader,.	165
18. Yellow-Skin, (two years old,) Gen. Cadwallader,	110
19. Willy, (fourteen years old,) Gen. Cadwallader,	90
20. Profitable 2nd., (about ten months old,) Henry Wells,	135
21. Victoria 5th., (about two months old,) Gen. Cadwallader,.	75

Bulls.

24. Beppo 3d., (calved 2d September, 1848,) Thos. Richmond, Esq., Gananoque, C. W.,	140
25. Leopold, (calved 6th Oct., 1840,) Mr. Cameron, near Kingston, Canada West,	50
26. Grand Duke, (calved 24th Feb., 1850,) John Osborne	95
27. Falcon, (calved 23d Sept., 1850,) Thos. Richmond, Esq., Gananoque, C. W.,	90
28. Marquis, (calved Aug., 1849,) Thos. Richmond, Esq.,	60
29. White Prince, (calved 12th April, 1851,) M. F. Yates.	55

Heifer Calves.

30. Beauty, (about two months old,) Wm. Osborn,	90
31. Red Lady, (about two months old,) Gen. Cadwallader, [not on catalogue,]	60
32. Fashion, (bull calf about six weeks old,) [not on catalogue] Gen. Cadwallader,	30
33. Fillpail 6th, (yearling heifer,) [not on catalogue,] ——Wilson, Esq., N. Y.,	90
	$3520

At Private Sale—not Advertised.

Lady Barrington 5th, (two years and ten months old) got by Meteor out of imported Lady Barrington 3d, purchased by Aaron Clement, Esq., for T. P. Remington, Esq., of Philadelphia,	350
Hilpa 4th, roan, heifer calf dropped April 9th, 1851, being two months and seventeen days old, got by Duke of Wellington out of imported Hilpa, to S. P. Chapman.	300
	$4170

It will be perceived by reference to the above statement that there were 19 cows and heifers sold which brought,	3010
Averaging about $160 each.	
7 Heifer calves brought,	640
Averaging $91 each.	
7 Bulls and bull calves brought,	520
Averaging $74 each.	
In all 33 animals, including two heifers at private sale,	$4170
The whole lot old and young averaging $126 each.	

Wrong Management.

Eds. Cultivator—I saw in the Cultivator an article stating you would like to have the farmers' boys ask some questions in regard to farming. My father has taken the Cultivator some years, and I have read it very thoroughly. It seems as though I could see a new light springing up through it.

The manner in which some farming is carried on in this section of the country, seems to me to be very bad. In taking care of stock in the fall and winter, when it is muddy and wet weather, many farmers keep their cattle out doors, instead of putting them into a good warm stable, and feeding them there. They often leave them out doors in the rain, exposed to cold winds enough to freeze a creature. They will consume a great deal more food than they will in the barn. Their cattle have to go too far after water, and when they get there, will fill their bodies to excess, and on their return they will pitch into the hay as though they had not had anything to eat for several days—frequently, they will go but once a day to water. I think a creature ought to have water as often in the winter as in the summer. I think if a farmer is able to keep a farm, he is able to have water in his farm-yard.

In sowing their grain, they will always try to be very saving of it; and then they will not put enough on to the land; and just so with their grass seed; they leave a great many spots that will not be covered. Then there will be a great chance for Canada thistles and other foul stuff to take root. I have seen a great many sow their old seed that they would collect in the barn, full of all kinds of seeds, instead of going to the seed-store and getting good seed. A YOUTH. *Bridgewater, N. Y.*

Stage for Cutting Plants for Hay.

There has heretofore been considerable diversity of opinion in regard to the proper stage at which plants should be cut for hay. It will be remembered that this journal has for several years advocated the practice of cutting while the herbage is in flower, on the principle that a greater amount of nutritious matter is then contained in the plant than at a later stage. Although the present haying season is nearly over, the following observations from the *North British Agriculturist*, will be read with advantage. The remark in regard to the value of the rowen or aftermath, we believe to be entirely correct, being supported by the experience of many of the best farmers. The remarks in regard to rye-grass, would apply equally well to most grasses cultivated for hay in this country.

As regards the common mixtures of rye-grass and clovers, the most common error is in allowing these to become *over ripe previous to cutting*. This is a most serious mistake, and one that no after management can remedy. Both rye-grass and clover as they begin to mature the seed, are converted into a woody texture, the starch and gum undergoing a change, as the seed arrives at maturity. As the seed of the rye-grass becomes matured, it drops off, during the process of forming it into hay; while that of the clover plant loses the leaves and often the flower. The wonder is, after so much has been written about the evils which result from allowing hay to become over ripe, that custom and prejudice should continue so powerfully to influence the practice of many farmers. The bulk is indeed greater, but the weight is often not increased, arising in part from the plants losing their leaves and seeds. Irrespective of the loss of the leaves and seeds, the second crop of grass is seriously injured when the first crop is allowed to stand beyond the proper period.

There is a very common mistake as to the nutritiousness of a second crop of hay. For fattening, second crop clover if properly saved, is superior to the first crop, if the summer and harvest months have been propitious. The propriety of cutting grass at the proper period of ripeness is not alone dependent on the first crop. The value of the second crop necessarily forms an important element in determining upon early cutting, and the weight of the two crops should always be taken into account in forming an opinion of the relative profitableness of the one over the other. As a rule, all grasses intended for *hay* should be cut as soon as the pollen of the flower is observed to rise in a gentle breeze in a cloud of dust from the field; this will be about three weeks after the heads of the grass have burst out of the hose.

The Locust.—Cicada Septendecim.

This interesting insect has appeared the present season, in several districts of the country. It has long been known that its period of appearance, once in seventeen years, did not occur in the same year everywhere, but that it is seen in different places in different years. The fact, though singular, has attracted but little attention till lately, and it has, indeed, been doubted by many persons. To Dr. G. B. SMITH, of Baltimore, Md., the public is indebted for the result of some very close and thorough investigations in regard to the habits of these insects, which have not heretofore been well understood. He says—

"I have the particulars of twenty-eight districts in the United States, in each of which these insects appear every seventeen years; but each district has a different time for its appearance from that of any neighboring district. For example, the locusts appeared about Richmond, and east of the Blue Ridge in Virginia, in 1843, and will appear there again in 1860; while on the west of the Blue Ridge they appeared in 1844, and will appear again in 1861. So it is over the whole of the United States south of latitude 44°, north of which I have not yet heard of their appearance. I have no doubt that they appear throughout the west as far as the shores of the Pacific. I have the fact of their appearance at Independence, the western limit of Missouri. In some one part of the American territory, they appear no doubt, every year. I have only been able to get authentic accounts of their appearance in fourteen out of the seventeen years."

Dr. S. thinks the locust does not pass from one district to another; that though it can fly, its flight is limited. In general, rivers and mountains are boundaries of these districts; but very high winds, it is thought, sometimes drives it a considerable distance, even across rivers. With this exception, he thinks they will not pass over a river an eighth of a mile wide. Still he thinks they will ultimately appear once a year over the whole country, "in consequence of the mingling of the districts by the insects being wafted by the winds from one to another."

Dr. S. has critically examined the insect in all its stages. He has found that the eggs, which are deposited in the limbs of trees, hatch (in the latitude of Baltimore,) about the 25th of July—having been deposited from the first to the 25th of the previous month. The young insects, as soon as hatched, come out of the branch of the tree, drop to the ground, and immediately work their way into it, where, as stated by Dr. S. "they attach themselves to the tender roots of grass and other vegetables,"—sucking the moisture which exudes from the roots. He states that with a good magnifying glass, it can be seen that "the young insect has every feature and member precisely the same as the large one had when he came out of the ground in the spring."

Dr. S. mentions that pigs and fowls are very fond of locusts, and eat large quantities of them as soon as they appear above ground. "So fond," he says, "are the fowls, birds, and pigs of these insects, that they will scarcely touch other food during the locust season. This has a remarkable effect on the hen's eggs laid after the locusts appear—their yolks are nearly all *white*. The chickens become very fat and of fine flavor."

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Col. Sherwood's Stock.

On another page of this number, (272,) is a cut of the Short-horn bull "Earl of Seaham," whose pedigree has been furnished us as follows:

(10,181.) Roan; calved April 21, 1848; bred by JOHN STEPHENSON, Esq., Wolviston, county of Durham, England; imported 1850, by A. STEVENS and J. M. SHERWOOD; got by Earl of Antrim (10,174;) dam, Primrose, by Napier (6238;) grandam, Rose Ann, by Bellerophon, (3119;) great grandam, Rosette, by Belvidere (1706;) gr. gr. grandam, Red Rose, by Waterloo (2816;) gr. gr. gr. grandam, Moss Rose, by Baron, (58;) gr. gr gr. gr. grandam, Angelina, (bred by Sir Henry Vane Tempest,) by Phenomenon (491;) gr. gr. gr. gr. gr. grandam, Anna Boleyn, by Favorite (252;) gr. gr. gr. gr. gr. gr. grandam, Princess, (bred by Robert Colling,) by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, (bred by Alexander Hall,) by Hubback (319;) gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Snowdon's Bull (612;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Beauty (bred by Thomas Hall,) by Masterman's Bull (422;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Duchess, of Atholl, by Harrison's Bull (292;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Tripes, (bred by C. Pickering,) by the Studley Bull (626;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, (bred by Mr. Stephenson, of Ketton, in 1739,) See 9th vol. Herd Book, pages 65 and 526.)

This is unquestionably a valuable bull. His points, both as regards shape and handling, indicate properties which are highly prized in this breed of cattle. He has a small, neatly turned head, with a bright, mild eye; the head handsomely joined to the neck, which rises handsomely from the shoulders. The chest is remarkably capacious for an animal of his age—being full and round in front. His crops and chine are hardly equal to his other points, but his back is generally level, his ribs broad and gradually swelling from the shoulders towards the hips; the loin wide; the hips large and round; the rump long; the flanks deep and full, and the hind quarter altogether well developed. His hide is of good substance, and elastic. His general form is compact, giving great weight for the apparent size. We saw him weighed on the 2d of July, and his weight was 1,952 lbs. He received the first prize of the New-York State Agricultural Society in 1850, as the best two-year-old Short-horn bull; also the first prize for Short-horn bulls at the show of the American Institute, 1850. We are informed that he is for sale. He may be seen at Col. SHERWOOD's farm, Auburn, N. Y.

The public are aware that Col. SHERWOOD has taken much pains to improve his stock of cattle. His herd of Short-horns was formed in the first instance, from animals selected from several herds of note in this country. Latterly he has made some direct importations. One of the first of those was the bull 3d Duke of Cambridge, bred by the late THOS. BATES, Esq., imported in 1849. This animal received the first prize at the State Fair at Syracuse, and was shown in the "extra" stock at the Fair at Albany. Col. S. has now on his farm thirteen of the progeny of this bull—eleven of which are full bloods. They are from a few weeks to about one year old. In points they are mostly very fine—evincing a decided improvement in symmetry, tendency to early maturity, and what is technically termed *quality*, over Col. S.'s former stock. This bull, though now in his tenth year, has all the vigor and sprightliness of the prime of life, and he bids fair to continue his usefulness several years.

Col. S. has several other imported animals, which are from the herd of Mr. STEPHENSON. Among these a cow called Red Rose 2d, deserves mention. She was calved Nov. 1846—was imported in the autumn of 1849. She has had two calves, both heifers—one dropped Oct. 22d, '49, the other May 2d, '51. Col. S. gave us an account of a trial which was made with her milk the present season, from the 20th of May to the 19th of June—30 days—as follows: The milk was weighed at each milking—kept by itself, the cream taken from it and made into butter—the churning being done twice a week, and the produce of each churning weighed. The weight of milk was 37 lbs. (probably equal to 18 quarts) per day, and the aggregate amount of butter for the 30 days was 60¼ lbs. We had several opportunities of tasting a sample of the butter, and it was of superior quality.

Both the calves which this cow has produced, are very fine. She is, herself, a cow of excellent points—perhaps a little too "fine drawn" in the head and neck; but the general proportions of her body are very good, and her indications for the production of butter, are seldom surpassed.

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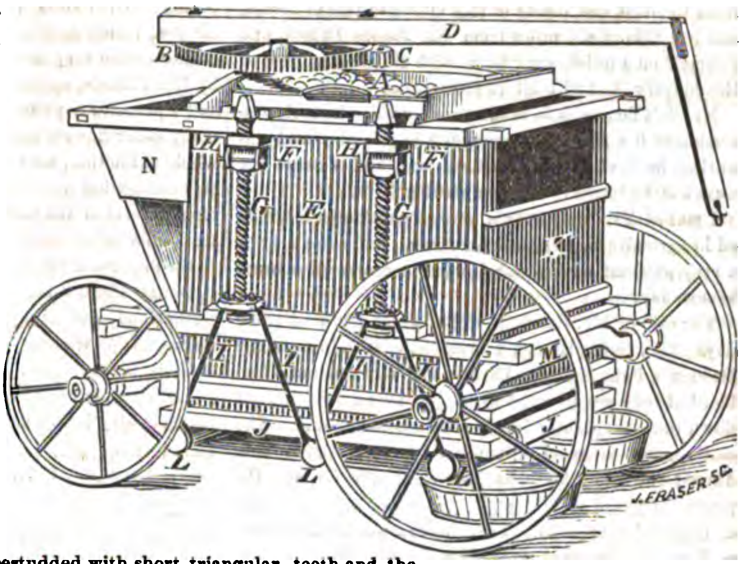
Agricultural Publications.

EDS. CULTIVATOR—If farmers would read and put in practice the teachings contained in The Cultivator and other periodicals, they could hardly fail of making progress in agricultural knowledge. From reading some of the early volumes of The Cultivator and Genesee Farmer, I was induced to change from a shallow, to a deep and thorough system of cultivation—paying particular regard to drainage, and the saving and application of manures—which have more than doubled the products per acre; and not only so, it has rendered the products measurably sure, and failures that were heretofore charged to the seasons, were found to be chargable to the method of cultivation.

I have mentioned the sources to which I am mainly indebted for the progress that I have made in agricultural improvement at this time, for the reason that of late we not unfrequently see it stated that eastern agricultural papers are not adapted to our wants—that they are not calculated for this latitude. Now whilst we admit the merits of our western papers, and are from duty and interest bound to sustain them, it is not admitted that eastern papers are not adapted to our wants; for we believe that wherever they are read, and what they teach is put in practice, they will answer for this or any other latitude where the cultivator of the soil is desirous of improving in his business. LINUS CONE. *Troy, Oakland county, Mich., June* 25, 1851.

TO PREVENT OXEN FROM CROWDING, it is only necessary to lengthen the yoke, often, in extreme cases, from 12 to 18 inches longer than those usually worn.

Chapin's Portable Cider Mill



This machine is designed for travelling over the country and making cider in the orchards. It was invented by Mr. N. Chapin, of Syracuse, N. Y., as an improvement upon his former mill of a similar character.

The annexed figure represents a perspective view of the large mill, which is to be conveyed and operated by horse power. The apples are placed in the hopper at A. B is a 42 inch spur-wheel which mashes with the pinion C, so that when a horse is attached to the sweep D, the grinding is done by a pair of cast-iron circular plates, about 20 inches in diameter, placed in a horizontal position in the upper part of the press-crib E. Both plates are bestudded with short triangular teeth and the under one is perforated with numerous small holes for discharging the pumice, that being sufficiently ground before it reaches the periphery of the plates. The press-crib E is constructed of slat-work, 3 feet by 5, and 4 feet high, constituting the main bulk of the machine.

When the crib is filled with pumice and frequent layers of straight straw, moistened with water, planks are placed over the pumice, and under the press-beams, which pass through the crib at F F, having broad iron bars, like tenons, projecting through the slats that intersect the screws G G by embracing the nuts H H between them. The stirrups I I suspend the platform of the press J J to the end of the four screws, so that the screws can neither rise or fall when turned, but the nuts, beams and press-plank are all forced down, thus contracting the pumice into the lower part of the crib, forcing the cider through on all sides, which is conducted to the tubs by a channel in the margin of the platform J J.

After the pressing is finished, the tubs and rear grate K are removed, and the cheese is disposed of by detaching the stirrup from the stringers L L and letting the platform and cheese to the ground. The platform is similar to a sled with the cheese upon it, which is drawn out under the rear axletree M by a horse and left clear from the mill.

Fig. 2 represents a variation of the same thing, expressly adapted to hand power. A is the hopper containing the apples, B are the grinding plates, the same as are in the large mill, except their position is vertical instead of horizontal. The small dots represent holes in the running plate, which assist in grinding and discharging the pumice into the press-crib C for pressing. D is the screw and lever by which the pressing is done; E is a moveable door of the crib for removing the cheese after pressing.

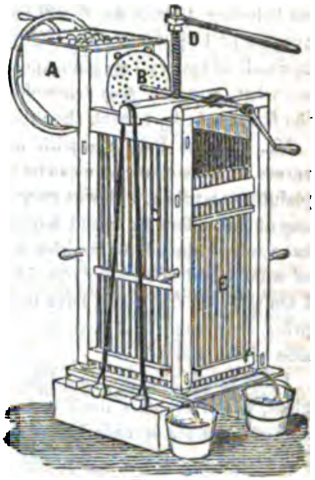


Fig. 2.

This machine has two cranks, one in front and another attached to a fly-wheel in the rear of the hopper, so that the power of two or more men may be applied to grinding the apples. The machine is moved from one place to another by means of handles. See Mr. Chapin's advertisement in this number.

Letter from B. P. Johnson, Esq.

London, June 12th, 1851.

Eds. Cultivator—Since I last wrote you, I have visited the farm of Mr. Tanqueray, a distiller in town, who has amassed quite a fortune, and has selected a farm of a few hundred acres about six miles from town, which he is putting in excellent order, and on which he is raising a fine herd of Short-horns. Mr. Tanqueray is getting together the "*Nell Gwynns*," and has now about 20 of them of undoubted character—the largest number of that strain of cattle owned by any one person. They are very uniform in their appearance, and of marked and distinctive character, and so far as Mr. T. has tested them, prove of good milking character. He had six brought home the day previous to my visiting his place, which Mr. Strafford bought for him in Preston, or near that town. It is Mr. T.'s intention, I believe, to keep this breed, and he is now crossing his cows with some good bulls—using "Lord Durham" this season—a very compact, fine bull, well suited, I should judge, to his cows. Mr. T. is very spirited, and will, I doubt not, soon obtain eminence in his new enterprise. He, like Mr. Harvey Combe, has entered into the matter of breeding "con amore," and I should presume, from their energy and enterprise, that they will leave no means untried that will probably lead to a successful result. It is a work of time and money to become a successful breeder; but these gentlemen have the means, the energy, and from what I can judge, the capability to succeed.

Mr. T. has some very promising young animals, and I believe he intends to increase his "Gwynns" until his heard will be of that strain. His breeding farm is in good order, considering the short time he has had it under his care, and it is really most exhilerating to escape from the dust and smoke of this immense pile of bricks, and in a ride of six miles from St. James Palace, find yourself on a quiet, snug farm, with all the freshness of the country, and with all its attractions.

Mr. T.'s farm was in much disorder when he took possession of it a few years since; but by draining and manuring, he is changing its appearance, and it wears the aspect of an improved and improving farm.

I met at Mr. Tanqueray's, several gentlemen interested in agriculture, as practical farmers, and the visit was a very pleasant one, which I hope to renew at a more leisure day.

The sale of Mr. Combe's stock, which I visited some days since, took place on Tuesday, the 10th inst., at the Downside Fair, Cobham Park. The day was unfavorable, but between two and three hundred gentlemen sat down to a sumptuous lunch previous to the sale. The cattle were in good condition. Mr. Strafford conducted the sale. The biddings were spirited, and the prices, (I heard several gentlemen remark,) were higher than they expected. There were 28 cows and heifers sold, which averaged over 30 guineas each, the highest bringing 49 guineas. Six heifer calves realized an average of 18 guineas each. Three bull calves brought upwards of twenty-two guineas each. Considering these are what they call *free trade* times, very disastrous to the farmers here, I think the sale was an excellent one.

Mr. Thomas Bell was with me at the sale, and he agrees with me that there can be no good ground of complaint as to prices. I was very much disposed to buy one of the heifers for friend Kirtland, as I think it would have suited him; but the price went far beyond my idea of what was desirable for our side of the water—though I am satisfied she would have been much cheaper at the price, than many that have reached our shores from this side of the water.

I like much the practice here of using a little sand-glass, which empties itself in less than half a minute, and unless a bid is made before the sand is run, the last bidder has it. It expedites wonderfully, and brings men to a decision, and saves much trouble. I met Mr. Jonas Webb and several other gentlemen of distinction, who are known for their interest in breeding.

HORTICULTURAL SHOW AT CHISWICK.—On Saturday last, 7th of June, the second Horticultural Exhibition for the season took place at Chiswick. The day was somewhat damp, and with occasional rain in the early part of the day, but the attendance was estimated at ten thousand, and I should suppose at least that number must have been present during the afternoon. The show is said to have been one of the best the society has held—certainly it was one of extraordinary richness in all its departments. Some extraordinary Pitcher plants from Messrs. Vietch, of Exeter, and some Cacti from Lady Antrobus, attracted very great attention. In connexion with the usual exhibition, was an American exhibition, by Mr. Hosea Waterer, the original grower of Rhododendrons, which was very fine—in fact some of the groups of Rhododendrons and Azaleas, were unsurpassably beautiful. The display of Pelargoniums, Pinks, Pansies, Calceolarias, both new and old varieties, was uncommonly rich. The collection of green-house plants, was very extensive, and many of them of uncommon richness and beauty. Of Fruits there were choice Pine-apples, Grapes, Peaches, Strawberries, &c.

Roses were very fine. The Yellow Persian, exhibited by Mr. Francis, appeared to me of uncommon beauty; and I perceive a prize was awarded to it. There were many other flowers and plants of great beauty—and the whole exhibition, notwithstanding the unfavorable weather, exceeded my highest anticipations. The music from several of the military bands was given in the perfection for which they are celebrated, and added much to the interest of the occasion. Among the distinguished personages in attendance, were the Duchesses of Orleans, Sutherland, and Argyle. The Count of Paris, Marquises of Winchester, and of Tweeddale, Lords John Russell, Blantyre, &c.

The receipts of the Crystal Palace, up to and including Saturday 7th June, were as follows:

Daily Visitors,		£71.421 [illegible]
Season Tickets,		65,976 15
Subscriptions,		64,344 [illegible]
For privilege to print the Catalogues,		3,200 00
For privilege to supply Refreshments,		5,500 00
		£210,441 15
Liabilities—		
Building,	£130,000 00	
Management, printing, &c.,	25,000 00	
Police,	10,000 00	
Prize Fund,	20,000 00	
		185,000
June 7th, surplus on hand,		£25,441 12

There are a variety of projects on hand to dispose of the surplus. But I have heard no one, as yet, suggest what I think should be done—pay the exhibitors the expense they have incurred in getting up the show, especially those from foreign countries and from England, those residing out of London and its vicinity. I have no hopes, however, of any such course being adopted—far more likely to get all they can to embellish the Park, or create a permanent fund to keep up the building, and open it as a public promenade, with plants, &c.

I am in receipt of papers and letters by the Cunard steamer just arrived. I notice several letters from this side are published, some of which, of an early date and official character, have been quite unfortunate in the character assigned to our exhibition. As the reality does not come up to the statements made,—the London journals, the "Times" especially, have taken occasion to charge upon the country at large, this, to say the least of it, boasting description of the American contributions, as entirely characteristic of our country. My own impressions, which have been strengthened by every day's observation here, are that if a little patience had been observed, until our exhibition was fully opened and arranged, it would not have elicited such a series of ill natured remarks, as have characterised the journals here—particularly the "Times" and "Morning Chronicle." I do not imagine any serious injury will result to our country. I think it will all be productive of benefit in the end; it however renders it very unpleasant for the exhibitors here to be constantly met with the sneers of those who, taking their cue from these journals, have not brains enough, many of them, to know what things are really valuable and useful in our collection, and what not. The Times, which I send you, of the 10th, has one of these snarling articles, which is unworthy of the paper, but which is *suited* to the market for which it is written—and which may give some of our people, an idea of what the *real* feeling is among those who manage affairs here.

In our minister here, Mr. Lawrence, we have a representative who, in my judgment, does great credit to his country. No one can be more indefatigable in his endeavors to promote the best interest of his country, and his attention to his countrymen, and his endeavors to facilitate them in all their movements here, entitles him to the warmest commendations. He has been unceasing in his efforts to further the great objects of the exhibition; and if it shall not prove in the end, all that it was hoped it might have been, it will not be from any want effort on his part, in every respect commensurate with the great work. I feel under very great obligations to Mr. L. for his constant endeavors to facilitate my labors in every direction. Truly yours, B. P. Johnson.

The Patent Office Report.

Agricultural Department,
U. S. Patent Office, July 5, 1851.

Editors of the Cultivator—Gentlemen: In your remarks on the Report of the Commissioner of Patents for 1849–50, you say, "We should have been much interested with many of the articles, had we not read them before in the Southern Cultivator and Genesee Farmer, which had been made the medium of giving them to the public before the report was issued."

The above statement is a mistake. No part of the report named was printed in any journal before it was submitted to Congress and became a public document, and accessible to the press generally. The New-York Tribune and Washington Republic copied a few chapters from this public document, and from those daily papers a part was copied into the Genesee Farmer and Southern Cultivator. The report was not "issued" from the press of the public printer till many months after it had left the Patent Office.* The report for 1850–51 has been a public document over four months, and yet not a line of it has appeared in the Genesee Farmer or Southern Cultivator; although I have been anxious to find time to copy for the last named journal, a very able essay from the pen of one of the Editors of the Albany Cultivator, which this report contains.

By publishing the above you will oblige me, and correct an error. Yours respectfully, Daniel Lee.

* We are unable to discover the "mistake" to which our correspondent alludes. We are not informed as to the precise time when the report was "issued." We received the only copy to which we have had "access," in June last, and saw the document for the first time only a few weeks previously. How it could be "accessible to the press generally," till it was regularly "issued" or circulated, is not understood. In the *Genesee Farmer* for June 1850, is an article, ostensibly original and *editorial*, entitled "A General View of American Agriculture." This article is entirely an abstract of Chapters I and II, given in the report, pp. 22–28. Not a word is said about its being "copied" from the "New-York Tribune," "Washington Republic," or any other work. This was *one year* before the document was "accessible to the press generally." In the same periodical, for July 1850, that part of the document embraced in pp. 6–13 is given under head of "Patent Office Report—Part II," with the signature of Dr. Lee. We cannot particularly refer to the articles which appeared in the *Southern Cultivator*, not having the files at hand.

Cattle Shows and Fairs this Autumn.

STATE EXHIBITIONS.

NEW-YORK.—To be held at Rochester—all articles to be entered and to be on the ground before 12 o'clock on *Tuesday, Sept.* 16. On *Wednesday* the exhibition will be open only to the Judges, Guests and Members of the Society—(any person can become a member by the payment of $1.) On *Thursday* and *Friday*, it will be open to all. Tickets of admission, 12½ cents.

VERMONT.—In pursuance of a call made by over two hundred of the agriculturists and raisers of stock in this State, a public meeting was holden at Middlebury, on the 16th June, 1851, at which it was resolved that a State Fair be holden at Middlebury, on the 10th and 11th days of September next. The main object of the Fair is to make an exhibition of our stock, our cattle, our horses, and our sheep. The public may be assured that the best specimens of Black Hawk colts, Morgan, Hamiltonian, and Eclipse stock, and of French and Spanish Merino, and other breeds of sheep, the best Durham, Ayrshire, Hereford, and Devonshire cattle, will be exhibited, and also the best specimens of native cattle, including oxen, cows, and young cattle. Officers and committees were appointed to carry the above resolution into effect—President, Hon. F. Holbrook, Brattleborough—Secretary, Maj. E. R. Wright, Middlebury.

NEW-HAMPSHIRE.—The State Fair is to be holden at Manchester—time not stated.

GEORGIA.—At Macon, in October.

OHIO.—At Columbus, Sept. 24th, 25th, and 26th.

PENNSYLVANIA.—At Harrisburgh, in October.

State Fairs are also to be held in *Maryland*, *Michigan*, and *Rhode Island*, but at what times and places we are uninformed.

NEW-YORK COUNTY SOCIETIES.

Oneida.—At Utica, Sept. 9, 10, 11, and 12.
Saratoga.—At Mechanicsville, Sept. 9, 10, and 11.
Essex.—At Elizabethtown, Sept. 17 and 18.

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The New Postage Law, which went into effect on the 1st of this month, (July,) fixes the rates as follows:

I. Letters.—Letters of half an ounce or under, not over 3,000 miles, pre-paid, 3 cents—not pre-paid, 5 cents. Each additional half ounce, at the same rates. For any distance exceeding 3,000 miles, double these rates.

Sea Letters.—For any distance over 2,500 miles, when carried wholly or in part by sea, 20 cents the half ounce, and for any distance under 2,500 miles, 10 cents.

Drop Letters.—Letters placed in the post-office for distribution only, one cent.

Advertised Letters, one cent extra.

II. Newspapers.—Weekly papers, not exceeding three ounces in weight, in counties where published, free.

Out of the county, under 50 miles,....	20	cents	per year.
Between 50 and 300 miles,.	40	"	"
" 300 and 1,000 miles,........	60	"	"
" 1,000 and 2,000 miles,.......	80	"	"
" 2.000 and 4,000 miles,.......	1.00	"	"
Over 4,000, miles,..........	1.20	"	"

Semi-weekly, double—tri-weekly, treble—and daily papers, five times the above rates.

Monthly papers, one-fourth, and semi-monthly, one-half the above rates.

III. Other Printed Matter.—On each circular, engraving, hand-bill, pamphlet, periodical, magazine, book, and every other description of printed matter, as follows:

For 500 miles or under,....................	1	cent	per oz.
Between 500 and 1,500 miles	2	"	"
" 1,500 and 2,500 miles,...........	3	"	"
" 2,500 and 3,500 miles,...........	4	"	"
Exceeding 3,500 miles,..........	5	"	"

Important Provisions.

1. "Subscribers to all periodicals shall be required to pay one-quarter's postage in advance; *in all such cases, the postage shall be* ONE HALF *the foregoing rates.*"

II. The postage on all printed matter, other than newspapers and periodicals, to be PRE-PAID.

III. Bound books, and parcels of printed matter, not weighing over 32 ounces, shall be deemed mailable matter.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from S. W. Johnson, Linus Cone, A Young Farmer, H. B. D., Thomas W. Field, W. R. Sanford, Prof. J. P. Norton, A Subscriber, J. W. Proctor, S. T. Atherton, S. S., Old Man of the Mountain, D. D. Devoe.

"Joint-Worm" in Wheat.—We have received a communication from Alex. Rives, Esq., of Carlton, Albemarle co., Va., describing the ravages of an insect known under the above name. Specimens of growing wheat, containing the insect were enclosed in Mr. R.'s letter. These we forwarded to Dr. Fitch, for examination, but we have not yet heard from him on the subject. We notice some remarks on this insect in the July number of the *Southern Planter*. The writer of that article says he has heard that a similar insect appeared a few years since in Dutchess county, N. Y., and appeals to us to know if this is a fact. In reply, we can say we have never seen or heard of the insect in this part of the country. We shall, however, doubtless have all that is known in regard to it from Dr. Fitch, whose observations we hope to receive to accompany Mr. R.'s communication in our next number.

Destructive Insect.—In a late visit to Onondaga and Cayuga counties, we were struck with the appearance of many of the orchards, and in some instances of woodlands, which had been overrun, and the foliage eaten by a species of caterpillar. We learn that this insect prevailed to some extent in the districts named, last year, and that the fruit of some orchards was destroyed by it; but it is a singular fact, that the localities where it appeared most numerously last year, are this year nearly exempt from their ravages—they seem to move on every year, to territory before unoccupied. It is evident, however, that they produce much injury, as the orchards where they prevailed last year, have failed to produce fruit, both that and the present season—the insect having actually destroyed the former crop, and so injured the trees that they were incapable this season of producing fruit. The caterpillar is not particular as to its food, as it devours the leaves of most kinds of deciduous trees which it meets with, such as elm, maple, oak, beech, apple, pear, &c. In some instances it this year devoured all the foliage within its reach, and, taking to the fences and other objects, died in myriads, before it passed into the chrysalis state. In size, the larvæ resembles the common apple-tree caterpillar, and is not unlike the latter in general appearance, though the two are evidently of distinct species. The apple-tree caterpillar congregates in webs or "nests." The other spreads over the whole tree, and does not shelter itself under a web. The larvæ spins a cocoon, and is transformed to a brown moth, with a black head. It is a trifle larger than the common caterpillar moth. The insect is new to us. We hope it will receive attention from entomologists.

The Wheat Crop in Virginia.—Micajah Davis, Esq., of Lynchburg, Va., writes under date of July 8th—"Our farmers have harvested their wheat in fine order, and though the crop is hardly an average in quantity, (much of it having been winter-killed,) it is of very fine quality—probably never surpassed, and rarely equalled. We are now suffering much from want of rain. The oat crop has been much curtailed by drouth, and corn and many vegetables are now suffering intensely."

Crops in Georgia.—Richard A. Benson, Esq. of Macon, Ga., writes under date of June 30th, as follows: "We have had an unusual drouth throughout most of this state, until very recently. We now have copious showers. The oat crop is almost an entire failure —fall oats only succeeding at all. Corn is improving since the rains. The wheat crop is better than in several previous years. Sweet potatoes will be scarce, most of them dying in the 'beds.' Cotton looks small and badly, and the prospect for a crop is gloomy. We never have had more fruit. Water-melons have been in market for several weeks, and peaches and apples are ripening."

Rambouillet Sheep.—We have received, too late for this number, a communication from S. W. Jewett, Esq., of Weybridge, Vt., in relation to the French Merino Sheep, of which he has lately made an extensive purchase in France. Mr. J. will, we hope, furnish for this journal, a series of articles embracing his notes of agricultural matters, taken while in Europe.

The Potato Disease.—We tender our thanks to Hon. John W. Proctor, Danvers, Mass., for a communication enclosing a letter from Prof. T. W. Harris, of Harvard College, in relation to insects which attack the potato. Prof. H.'s remarks are very interesting, and show clearly that (as we have always maintained,) the potato disease has no connection with insects. We regret that the article did not reach us in time for this number. It will be given in our next.

Downing's Seedling Rhubarb.—In the proper season for using this plant, we received from Mr. James Wilson, of this city, a specimen of this variety, orginally grown from seed by Mr. Charles Downing, of Newburgh, N. Y. We think it superior to any kind we have ever seen. In color and texture it resembles the Early Red, but is far more productive than that variety, while it is fully equal, or perhaps better, in quality.

Correction.—In our June number, (page 212,) we gave a paragraph in reference to the growth of a pear tree, in the garden of Linus Cone, of Oakland county, Michigan—the statement there made having been communicated to the *Michigan Farmer*. We have received a letter from Mr. Cone, correcting a mistake in the article. The word "diameter" which occurs in reference to the size of the tree, should have been *circumference*.

Do Toads Eat Stawberries?—According to the "official" report of a late discussion by the "American Institute Farmers' Club," given in the New-York *Mirror*, Prof. J. J. Mapes said, "Toads are very fond of Strawberries, and select the best for their own eating." This, as is said of other things sometimes found in print, is "very important *if true*." Toads have often been spoken of as useful in gardens, on account of their destroying insects, and being, besides, entirely harmless to vegetation. The singular trait which Prof. M. attributes to them is new, and as his statement may have the effect to banish these useful little animals from grounds where they have heretofore been admitted, we take the liberty of offering in their favor the plea of "not guilty," to the above charge. The only authority to which it is convenient to refer at this time, is Dr. De Kay. In the *Natural History of New-York*, he says of the "Common American Toad"—"We must not overlook its value in diminishing the number of noxious insects. * * * It is a timid, inoffensive animal, and has even been domesticated. * * * They live upon insects, earth-worms, &c., which they always seize when in motion, refusing to touch any dead food."

Seedling Apple.—Mr. Wm. Wilson, of West Milton, Saratoga county, has left with us a specimen of an apple which originated on his farm—the original tree having died five or six years ago. It is a small-sized, fair apple, evidently a long-keeper—the specimens being perfectly sound on the first of July; but it is not of superior quality, from its want of juiciness and flavor.

Devon Cattle for Massachusetts.—Three Devon heifers, designed for Hon. B. V. French, of Braintree, Mass., lately passed through this city. One was two years old, and the others were yearlings—the former bred by H. N. Washbon, the latter by James Blackman, Butternuts, Otsego county, N. Y. They are decidedly fine animals, and will be a valuable addition to Mr. French's herd, which before comprised some very superior Devons, formerly procured by the officers of the Massachusetts Society for Promoting Agriculture, from the celebrated herd of the Earl of Leicester.

Materials for Manure.—August is usually the driest month of the year, and consequently most favorable to the reclamation of wet lands, and to the excavation of "muck" for manure. Every farmer should provide subtances of some kind for absorbing the liquids of his stables and yards. Straw, or litter of any kind will answer for this purpose, but all farms do not afford this material in sufficient quantity. We have often recommended the use of muck, or peaty earth, for this purpose, but the neglect of this substance—either from a want of a knowledge of its value, or some other cause—induces a repetition of the suggestion. Muck varies greatly in value, but all is more or less valuable—especially as an absorbent of urine. It is, in many instances, a good manure of itself. The deposits of small swamps, usually covered with ash trees, surrounded by high lands, are often of this character. The muck contains less acid than that commonly found in swamps where evergreens grow. We have lately heard the testimony of some of the best farmers in Columbia county, N. Y., to the effect that a compost made of equal parts of muck from an ash and elm swamp, with barn-yard or stable manure, would produce greater effects, and better crops, for any length of time, than an equal quantity of clear manure. We will not pretend to say what is the principle contained in this substance, which produces those effects—whether it is the carbon which is ultimately combined with oxygen, and forms carbonic acid, and thus feeds the crops, or any other cause, is of secondary consequence to the farmer, so long as the effects are produced—and of these there is no doubt.

Keep up the War against Weeds.—The war which all farmers should wage against weeds, should be one of extermination. Hence it should be continued to so late a period in the season that there can be no chance for them to form seeds. If they grow so much among crops that they cannot be dug up, or pulled up, cut them off before the seed matures. The more closely this labor is followed up, the lighter will the labor be, year after year, and the better will be the crops, from not being injured by their enemies. It will pay well to mow stubble fields in autumn. Sometimes the herbage which is obtained will afford a very good fodder for winter, as a change either for cattle or sheep. The bitter plants which frequently constitute a great part of the growth, serve as condiments to assist digestion and promote the appetite. Packed away with straw in alternate layers, they will not spoil by heating, and will impart a relish to the straw. But the greatest advantage of cutting the weeds which grow in stubble, is to prevent them from seeding the ground, and to clear them off out of the way of the crop of grass or clover the next year. A horse-rake can be used to gather the crop.

Drain Tiles.—By Messrs. Babcock & Co.'s advertisement it will be seen that he is now making tiles on an extensive scale, and we trust they will be able to supply the great and increasing demand for them. We are informed that many persons who have not used tiles for draining, have an idea that it is necessary to connect the ends by passing one tile into another. This is not at all necessary. The following are the directions which Messrs. B. & Co. give, and which may be safely followed: "The ditch should be formed wedge-shaped, and dug from 2½ to 3 feet deep, and should be smooth on the bottom, with a proper descent. The tiles are simply placed end to end; wedged a little on the sides, if necessary, to keep them in line; the top of the joints covered with a sod, *turned grass side down:* if sods are not at hand, use shavings or straw for a covering. Water will find its way through the joints: experience will prove that you can not keep it out. In wet lands lay the drains 25 feet apart; other locations, from 30 to 50 feet. On soft bottoms, lay under the Tile a narrow board, and fill up the ditch with earth."

ANSWERS TO INQUIRIES.

Best Climbing Rose.—H. B. D., Middletown, Ct. The Queen of the Prairie and Baltimore Belle, will be found preferable. They may be set either in autumn or spring.

Lice on Cattle.—Young Farmer. Unguentum, a preparation of mercury, is most effectual in destroying vermin on cattle, but it is not a safe remedy to be applied to stock running at large, because if they get wet under its operation, it is liable to produce salivation and weakness of the limbs, &c. Oil, or any kind of grease, will kill the vermin, so far as it comes in actual contact with them. Tobacco decoction will also kill them, but is liable to sicken and weaken the stock for a while. Everything considered, whale oil, is perhaps, the best application. It should be put on those parts of the body where the vermin attach themselves in the greatest numbers.

Scouring in Calves.—The cause of this disease is often indigestion—dyspepsia. In its early stage it may generally be cured by chalk—allowing the animal to lick from a lump whatever it chooses. If the attack continue, give castor-oil, in doses equal to those usually administered for adult persons. This will cleanse the intestines, and in most cases will check the disease.

Agricultural Books.—Norton's "Elements," and most of the Agricultural Books advertised in the Cultivator, can be had at this office.

Weakness of the Spine in Pigs.—A Subscriber, Berks county, Pa. Weakness of the spine is sometimes an indication of weakness of constitution, and is often very prominent in animals which have been bred from parents having this tendency. It is a serious defect, and should either be corrected in the stock in which it appears, by a "strong cross," or the stock should be given up altogether. There is, however, a weakness of the back which is different from this, and is caused by what is called the "kidney-worm." The animal drags its posterior parts, as you describe. The best remedy we have known, is to feed with corn soaked in lye of wood ashes.

NEW PUBLICATIONS.

Harper's new Monthly Magazine.—The number of this magazine for July, is particularly rich and excellent both in its illustrations and matter. It opens with an article on "Our National Anniversary," by B. J. Lossing, embellished with beautifully engraved portraits of the Revolutionary Fathers, with brief sketches of their characters, a copy of the Declaration of Independence, and fac-similies of the original signatures. Next we have an article on life-boats and life-cars, by Jacob Abbott, with eleven excellent illustrations. There are also many other interesting and valuable articles in the number—particularly one on the Eclipses of the month of July, 1851, by Charles Colby, of the Cambridge Observatory,—and those on the Solar System, Somnambulism, &c. Published by Harper & Brothers, 82 Cliff street, New-York.

Pictorial Field Book of the Revolution.—Nos. 14 and 15 of this excellent work have been received. The former comprises principally historical incidents connected with the State of Rhode-Island and its vicinity. Its illustrations are of a highly interesting character, and, as usual, are executed in the finest style. Among them is the Old Tower at Newport, Head Quarters of the British General Prescott, Scene of the Battle on Rhode-Island, in 1778, Portrait and Sign-manual of King Philip, Gen. Washington's Head Quarters at Newburgh, &c. No. 15 brings down the history to the capture of Andre. This number abounds with fine illustrations representing various points of interest on the Hudson, especially the old fortifications at West Point and vicinity, some of which are among the best the work has contained. This work ought to be in every family in the United States. The author is Benson J. Lossing, and the publishers are Harper & Brothers, New-York. It will be completed in about twenty numbers, which are sold at 25 cents each.

Albany Prices Current.

Albany, July 15.

Flour.—We have had a better demand for flour during the month, and prices of most descriptions can be quoted 12½a25c. higher, induced mainly by an increased shipping demand, and an active speculative movement. Advices from the Western and Southwestern States in reference to the harvest, for all descriptions of grain are very favorable; in Ohio, Indiana, Illinois, Iowa, Michigan and North Missouri our accounts agree in stating that the crops of wheat and corn are exceedingly promising for both quality and quantity. An increased breadth of land has been seeded, and the harvest this year will undoubtedly exceed that of any preceding one—and this comes in the face of low prices. The sales of the month add up 38,000 to 40,000 bls., closing at $3.75a$4 for common Western and inferior State; $4a$4.25 for good State and Michigan, Indiana and Wisconsin; $4.25a$4.31¼ for Ohio; $4.37½a$4.50 for Genesee; $4.50a$4.62½ for extra O.; $4.62½a$4 87½ for fancy Gen. and $5a$5.25 for extra Gen. Corn meal is in steady demand at $1.18¾c. per cwt. in bags. Liverpool dates of July 1st, received by the Franklin, state that the fine weather had caused a complete stagnation in the flour market and sales would have been made, had buyers appeared, at a decline of 2s. per brl. on American, and 1s. per sack on French flour. The receipts of flour at tide water continue largely in excess of the receipts to the corresponding period last year.

Grain.—The sales of wheat during the month aggregate 20,000 bushels, at prices which show a gradually declining market; we quote Genesee 106a112½ for ordinary to prime, Ohio 94a96, and Michigan 98a104c. nominally. Some samples of new Southern wheat were shown on 'Change on 1st. inst.; they were from Petersburgh, Va.; the berry was well filled and plump. Rye has been in limited supply, with sales 6000 bushels, in lots at 70½a72c.

The sales of oats are large; about 70,000 bushels have been taken since our last, at figures which show a decline on previous quotations, owing to the large receipts of Western; we quote 41a42c. for good Western, Canadian, and Canal. The transactions in corn during the month have been large; upwards of 270,000 bushels have been sold; quotations have been somewhat variable, but the market closes full as well as it was a month ago; we quote 54a54½ for sound parcels of Western mixed, and 56 for Yellow round which is in limited supply; there is no round white offering. Heated and damaged parcels which arrive freely, sell at 48a50c. The Liverpool advices to the 1st quote corn a decline of 1s. per quarter, and wheat 2d.a3d. per bushel of 70 lbs.

Whiskey.—The market has been steadily maintained; sales 700 bls. Ohio and S. P., at 23½a23¾ for Ohio, and 23¾a24 for S. P.; closing at 23¾a24c. for Ohio and S. P.

Provisions.—The retail demand is steady and quotations are unchanged; we quote new mess pork $15a15.50, do. prime $13. Beef, mess $10a10,50, and $5a6 for prime. Hams, 8½a10c. for smoked, and 7a7½c. for shoulders; in pickle, hams 7a8c. and shoulders 6a6½c. Lard 9a10c. Butter 12a14c. for new State. Cheese 5a7c.

Hops.—Some sales of the growth of 1848 and 1849 have been made for brewing at 25c. for the former, and 30c. for the latter.

Plaster.—Nova Scotia is down to $2.50 with a good supply and sales 700 to 800 tons.

Wool.—The market here has not opened yet; the only sale we have to notice is 8000 lbs. coarse fleece at 36c.

Feed.—We have but little to notice; the sales are about 30,000 bushels, at 14c. for shorts, 17a24c. for second quality and 100a106ct for middlings. There have been no sales of moment within the last 10 days.

Salt is in fair demand at 106½ for brls. at 10½ for bags.

Superior Seed Wheat.

A LARGE assortment of the best varieties of Improved Seed Wheat for sale, among which are the Golden Australian, China or Troye, White Flint, Hutchinson's Improved, Soule and Mediterranean.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

SEED RYE.

RYE of the best winter variety; also a cheaper kind suitable for late fall and early spring pastures.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

Improved Turnep Seed.

STRAP-LEAVED, Red-top, Flat, Norfolk, Long Tankard, Yellow Stone, Aberdeen, and several other of the most approved kinds of turnep seed, just received fresh from England.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York

Mediterranean Wheat.

THE reputation this wheat has obtained for a few years past, has put it beyond doubt, that it is the very best variety for our climate and soil—being so early, it *entirely* escapes the ravages of the Fly. We have now a choice lot on hand, and offer for sale, at the Albany Agricultural Warehouse and Seedstore, 369 & 371 Broadway, Albany.

EMERY & CO.

State Agricultural Warehouse.

THE subscrber would respectfully invite the attention of Farmers and Planters to his varied assortment of Agricultural and Horticultural Implements, among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Railroad Horse Power and Thresher, all of which took the first premiums at the late State Agricultural Fair, and are unequalled by any now in use; together with the latest and most improved *Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c. &c.*, which I well sell at as low rates as any similar establishment in the United States.

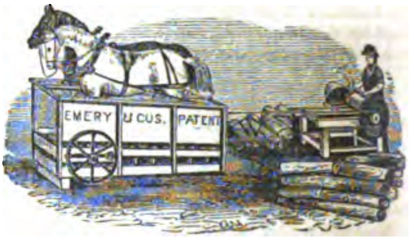
I shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles from me may rely upon their giving satisfaction, as I intend keeping only such as I can fully warrant.

G. H. BARR,
Aug. 1—1t. No. 25 Cliff street, New-York.

Patent Wire Fence

FOR farms and division fences, with Iron posts—price, from $1.50 to $1.75 per rod. This fence has none of the objections urged against long panels of fence, these being only 12 feet each, and rods of one-quarter inch diameter. Also Ornamental Iron Railings, from 30 cents to $2 per foot. EMERY & CO., 369 & 371 Broadway, Albany, N. Y. Aug. 1.



EMERY & CO.'S
New-York State Society's First Premium
RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair, (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision ruined your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season, make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and wormanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

The price for Emery & Co.'s one Horse Power.... $80.00
do do Threshers and Separator,. 35.00
do Bands, wrench, oiler and extra pieces,.... 5.00—$120.00
do Two Horse Power,...................... 110.00
do do Thresher and Separator,...... 35.00
do Bands, oiler, wrench, &c.,................ 5.00—$150.00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,...................................... $75.00
do Saw Mill, complete for use,.............. 35.00
Price of Grant's Fan Mills, adapted for hand or power from,.............................. $22.00 to $28.00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, (or made and sold by any other manufacturer,) which we sell with a full guarantee of the right of using the same in any territory of the United States, for the following prices:

One Horse Power,.............................. $75.00
Two Horse Power,.............................. 100.00

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Those wishing to procure Emery & Co.'s latest Improved Premium Horse Power and Machine, will observe that their name is cast on *every link of chain* and *band wheel Hub*—none others are genuine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse, furnished gratis. EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway, Albany, New-York. August, 1851.

ELLWANGER & BARRY,

Mount Hope Garden and Nurseries, Rochester, N. Y.,

WILL publish on first of August, *a new wholesale price Catalogue*, for fall of 1851, which will offer unusual inducements to purchasers of Nursery Stock in large quantities. Every person who intends purchasing in the ensuing fall, will find it to their advantage, (previous to sending their orders elsewhere) to be in possession of one of these catalogues, which will be furnished gratis to all post-paid applications or at the office.

Rochester, N. Y., Aug. 1, 1851—2t.

Australia Golden Wheat.

THE largest and most productive wheat in the world. The subscribers are now prepared to furnish farmers and others, interested in the growth of this splendid and valuable wheat, in large or small quantities, at the lowest market price. This wheat has been cultivated on Long Island for the last two years with perfect success, and yields at least one-third more to the acre than any of the ordinary varieties. Farmers and seedsmen wishing to procure this wheat, will please send in their orders in time as the supply is limited. Specimens of the growth of this wheat can be seen at the store of the subscribers. In addition to the above we have for sale a large stock of all the varieties of Grass, Field and Garden Seeds.

JOHN MAYHER & CO.,
Aug. 1—1t. No. 197 Water street, New-York.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va.

R. H. ARMISTEAD,
Aug. 1—3t. Executor and Com.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

Chapin's New Portable Cider Mill.

THE demand for these machines, previous to the present improvement, has been even more than sufficient; and an increase is not desired, unless it can be earlier in the season.

All applications for Mills should be made before the first of September, or they will fall among a large number, some of which cannot be supplied in season for operation.

The present form of these machines, both large and small, by last fall's operations, have proved themselves much more practical than before the improvement. They are destined to an extensive patronage. Under ordinary circumstances, but one horse is required to operate or draw the large mill. With the help of two men and a horse, they go into the orchard and turn out from 12 to 16 barrels of cider per day.

PRICE, 125 dollars with waggon wheels and thills—100 dollars without.

The Mills may be delivered without wheels and thills, and be furnished at their place of destination.

Two men may operate one of the hand Mills, and make from 4 to 6 barrels of cider per day. About one barrel is made at each pressing. Price 40 dollars, with an individual right of using.

RAPELJE & Co., Rochester, N. Y.
A. PATCHIN, Westfield, N. Y.
GEORGE C. COOLEY, Canandaigua, N. Y.
H. SPAULDING, Syracuse, N. Y.
Manufacturing Agents.

NATHAN CHAPIN, Patentee and Manufacturer, No. 105 West Water-street, Syracuse, N. Y. Aug. 1, 1851—1t.*

Fruit and Ornamental Trees, &c.

THE subscribers solicit the attention of Nurserymen, Orchardists, and Amateurs, to their present large and fine stock of Nursery articles.

Standard Fruit Trees for Orchards—Thrifty, well grown and handsome, of all the best varieties.

Dwarf Trees for Gardens—The largest stock in the country, and the most complete.

Dwarf Pear Trees—Our collection consists of well known leading varieties, and numbers more than 150,000 saleable trees. The superiority of these, being grown in this country, over imported trees, is well known to every intelligent cultivator. Nothing in fact in this country, can equal our collection of Pear Trees; they can be had from one to four years growth, some of which are now covered with fruit.

Dwarf Apple Trees—We cultivate in large quantities, the best and handsomest varieties of Apples on Doucain and Paradise stocks, for Dwarf and Pyramids, and can furnish them in large quantities from one to two years growth.

Dwarf Cherry Trees—All the leading varieties are cultivated, on Mahaleb stocks, extensively. We can furnish by hundred and thousand, from one to two years growth.

Cherry Currant—The largest variety known. Upwards of 1000 plants on hand.

English Gooseberries—All the best sorts.

Large Fruited Monthly Raspberry, that gives a crop of fine Fruit in the Autumn.

Strawberries—All the best sorts.

Ornamental Shade Trees—Of good size for Streets, Parks, &c., large and well grown.

Choice Trees and Shrubs, for lawns and pleasure grounds, including all the finest new and rare articles recently introduced.

Hardy Evergreen Trees.—Norway, Spruce and Balsam Fir, of small size in large qu[illegible]es, and a moderate supply of large ones, besides nearly [illegible] *and rare Evergreens*, including Deodar Cedar, Cedar [illegible] Le[illegible]non, Chili Pine, Cryptomeria or Japan Cedar, Himala[illegible]an Spruce, &c. &c.

Roses, Pæonies—A large and complete collection, including the finest novelties.

Phloxes—A collection of upwards of 60 varieties, including 30 new varieties imported last spring.

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For an editorial notice and figure of this drill, see the June number of the Cultivator for this year, p. 209.

PRICES—$65 for 7-tube drill; $75 for 9-tube drill, and $85 for 11-tube drill. All orders addressed to the subscribers, at Macedon, Wayne Co., N. Y., thankfully received and promptly attented to, and shipments made at canal or railroad. BICKFORD & HOFFMAN.

Macedon, Aug. 1, 1851—2t.

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July 1—4t. A. S. BABCOCK & CO., Albany.

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July 1—tf.

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Farmingon, Ct., July 1—2t.

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July 1—2t.

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June 1, 1851—9t.

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Staten-Island, Aug. 1—tf.

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Silliman's American Journal of Science and Art.

THIS Journal of established reputation, is issued at New-Haven, Ct., every two months, in numbers of 182 pages each, under the editorial labors of Professors Silliman, Silliman, jr., and J. D. Dana. It forms two volumes a year; price per year $5.

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THE subscriber has been appointed local secretary, of the New-York State Agricultural Society at Rochester. Any inquiries respecting matters connected with the arrangements of the show grounds for the Fair, may be addressed to me.

Persons having articles for exhibition, who cannot accompany them to Rochester, can consign them to me, and I will see that they are taken proper care of, and the necessary entries made at the business office. JAMES P. FOGG.
Rochester, Aug. 1, 1851—2t. Local Secretary.

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D. C. SMITH, Schenectady.
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AGRICULTURE OF OHIO—No. 2.

BY W. G. EDMUNDSON.

On the Cultivation and Management of Maize.—Next in importance to wheat, is the corn crop of Ohio. The annual production of this crop ranges from 70,000,000 to 80,000,000 bushels, a very large portion of which is fed to cattle, hogs and horses, and other domestic animals. The actual money value of the corn grown in Ohio, for a series of years, doubtless far exceeds that obtained for the wheat crop for the same period. A superficial observer, might not be willing to admit the correctness of this opinion, but its truth may be conclusively shown. Corn is never known to fail, and on land at all suited to its culture, by proper management, the average product will not vary more than twenty-five per cent, in any single year, although it may be considered unfavorable for the crop. Wet seasons, that are greatly to the prejudice of the wheat crop, are very favorable on most soils for the production of corn. Wheat, in periods of about five years, proves so great a failure that it does not pay the farmer the cost of production; and anything like a full paying crop cannot with confidence be expected more than every alternate season. Two good crops may come in succession, but the two succeeding ones will most likely be failures to a greater or less extent. This statement, strange as it may appear to many, can be fully borne out by facts, yet it by no means proves that Ohio is not a good country for the production of wheat. It only goes to show, that corn is less subject to casualties than wheat, and that in a financial point of view, it is more reliable, both to the grower and exporter. If it had not been for the eighty odd millions of bushels of corn that was grown in Ohio in the summer of 1849, no possible effort on the part of her citizens could have prevented a serious financial crisis. That year the wheat crop proved a total failure in at least one half of the counties, and scarcely sufficient was raised to supply the rural population with breadstuff, much less the citizens of the cities and towns. The commerce and credit of the state relied mainly upon corn, pork, beef, wool and dairy products, and the latter being greatly dependant upon the former of these great leading products of the country, it may fairly be inferred that in this instance at least the corn crop saved the state, or at least its commercial interests, from bankruptcy. So important an interest then, as the one under consideration, must necessarily be carefully discussed, and in order that the reader may not be deceived by a mere show of favorable figures, the dark as well as the bright sight will be exhibited.

Unlike any of the eastern states, the rivers with their branches in Ohio, are proverbial for the great extent of the rich valleys they afford. These valleys are eminently adapted for the growth of corn, grass, and even wheat and clover. No conception can be formed of the extent and fertility of the valley lands of this state, by persons who have never personally seen them. The Miami and Scioto valley are each upwards of one hundred miles in length, and from one to eight miles in breadth. The country adjoining those rivers right and left, is washed by streams or smaller rivers that have each almost innumerable branches, all of which have rich bottom lands ranging from one-fourth to one mile in breadth. The same applies to all the other rivers of the state, and the sum total of the area of this description of soils must equal at least one-fifteenth of the entire cultivated lands of Ohio. As a general thing the vegetable mould on the surface averages about fifteen inches, below which is a deposit of clay and sand-loam, of from three to five feet, resting upon a strata of lime, and sand-stone gravel, the latter being entirely dependant upon the character of the primitive rocks, that prevailed in the region of country, where those rivers and streams are located. Some of the rich bottom lands are not underlaid with gravel, but rest upon a stiff clay, unfitting them for wheat and clover, and on such soils only corn, grass, and oats are grown. By far the greater portion of the intervale or bottom lands of Ohio, are of the description first mentioned, and in consequence of the porosity of the subsoil and the draining influence of the gravel, it may be worked much earlier in the spring than ordinary upland, and the wheat and clover plants are less liable to be injured by winter and spring frosts, than on soils whose elevation and constituent properties, would entitle them to the appellation of first quality of soils for wheat, clover, and other small grains. On this account, in connection with the ease with which they are plowed and cultivated, valley farms bring a much higher price in the market than any other description of lands. Good farms of the kind described cannot be had, within a convenient distance for market, in any of the old settled counties of the state, for a less price than from $25 to $50 per acre, according to the buildings and other improvements.

Corn, as has already been stated, forms the great staple among the farmers who cultivate the rich alluvial soils of Ohio. In many cases as high as thirty crops of corn have been grown upon the same field, and the last crop was as productive as the first. So fertile was the soil of many portions of Ohio thought to be, at the early settlement of the country, that the opinion pretty generally prevailed, that its reproducing powers could not be exhausted. Consequently, methods of cropping were adopted at the start, which were calculated to extract the fertilizing properties from the soil, without restoring any of the requisite elements for the reproduction of those crops, and hence, except under very favorable circumstances, a deterioration in the quality and value of those lands has been gradually produced, greatly to the pecuniary loss of the land owners. In some instances an enlightened system of cultivation and rotation of crops is practiced, but we regret that the masses of the Ohio farmers have yet to learn by bitter experience, the importance of nursing rather than skinning their lands.

As far as the eye can stretch in the distance, nothing but corn and wheat fields are to be seen; and on some points of the Scioto Valley, as high as a thousand acres of corn may be seen in adjoining fields, belonging to some eight or ten different proprietors. From one to two hundred acres of corn are grown by the rich landed proprietors of the Scioto and Miami valleys, and, with only one plowing previous to planting, and some three stirrings with a shovel plow, an average crop of from fifty to eighty bushels per acre, may confidently be expected. This large yield, with the trifling amount of labor expended, and the result being comparatively free from risk and contingency, all combine to make the corn crop a favorite one among those who possess soils eminently adapted for its growth. Where the practice prevails of growing corn in succession for many years, without allowing any other description of crop to alternate, the soil becomes overrun with annual weeds, which attain a great growth during the month of August and the early part of September, so that by the time the crop is ripe, the ground becomes matted with weeds fully knee high, and before the setting-in of winter, the seed of those weeds becomes matured, and the following season are equal, if not a greater annoyance, than the previous year. This difficulty is thoroughly obviated by some farmers, who adopt a rotation of crops suited to effect that purpose. The ordinary management given the corn crop, not only brings the land to the finest tilth, but completely eradicates all kinds of grasses and weeds; so that when the crop is laid by, as it is termed, which is done in the month of July, no species of summer-fallow could better prepare the ground for wheat. About the last of August, or first week in September, many sow their corn ground with wheat, and cover the seed with a steel tooth cultivator or shovel plow. Others cut up the corn and shook it up in rows across the field, about 15 or 20 yards asunder, and then plow up the ground between those rows, and sow it with wheat, leaving strips of some eight or ten feet wide, on which the corn was shocked, to be sowed with oats the following spring. Of the two systems, the latter is most extensively practiced, mainly on account of the inconvenience experienced in sowing and covering the seed amongst a crop that is very subject to fall down when the ears begin to get heavy. Where it can be done, the plan of sowing wheat among the standing corn, is preferable to waiting till the crop is harvested, on account of the late period the wheat is sown when this plan is adopted.

The early varieties, such as find favor in the east, are rarely to be found in Ohio. In some instances, a large variety of the eight rowed yellow corn is cultivated for the purpose of preparing the ground for wheat, in which case it is harvested by the middle of September, and the whole of the ground is cleared of the crop, and sown with wheat the latter part of September. This plan, however, is only done on a small scale, and by those farmers who simply grow corn sufficient for domestic consumption. In almost every instance, the dented varieties of corn are grown by those who make corn growing a leading department of their business. These varieties grow at least twice as tall as northern corn; have a much stronger stalk; are not very subject to suckers; have but few ears on a stalk, and those of large growth, and when thoroughly filled and ripened, the birds and squirrels do not damage the crop to the same extent that is done to the small varieties. The ears take a position on the stalk from 3 to 5 feet from the surface of the ground; and not more than two ears per stalk are obtained, even by the most thorough cultivation and liberal manuring. The rows are placed from 3 to 4 feet asunder, in opposite directions across the field, so as to admit the crop being cultivated by the shovel plow, corn plow, or steel tooth cultivator, as the case may be, and from three to four stalks are allowed to grow in a hill. Ordinarily, the crop is worked four times, beginning when the plants are only a few inches high, and ending when the stalks are some two or more feet high; but in some instances even the fifth and sixth horse-hoeing is given the corn crop, which is mainly done to improve the condition of the land for the succeeding wheat crop. On the rich valleys, however, two, and at the outside three dressings, with the one horse, or shovel plow, is all that is required to obtain a full average crop of from 60 to 80 bushels per acre; and hence a less amount of labor is required, than would be necessary on thin upland, to bring about the same result. When the expense of manuring upland is taken into the account, the labor necessary to obtain say 60 bushels per acre, is fully twice as much as would have to be expended to secure the same result on ordinary bottom land. It therefore, must appear obvious, that those who are in possession of land naturally adapted for the growth of corn, can produce it at a much cheaper rate than those whose soil is better suited for the growth of wheat and clover; and as evidence of this, the fact need only be mentioned, that the valley farmers, who cultivate corn entirely, are becoming very wealthy, whilst those who engage in the business extensively on their upland, are not more than barely paid for their labor. The whole matter is easily explained. The average product on the rich alluvial soils is 60 bushels per acre, costing in labor, one plowing, and two or three dressings with the shovel plow; whilst on the high, thin land, the yield is about thirty bushels per acre, costing in labor fully twice as much as on the former description of soils. The difference does not end here, from the fact that the bottom land contains the requisite food for the corn plants to produce from 20 to 30 consecutive crops, averaging from 50 to 100 bushels per acre, according to the amount and kind of labor expended upon it in its cultivation; and, on the other hand, a naturally rich wheat soil will yield only some 8 or 10 crops of corn in succession, averaging from 30 to 50 bushels per acre, according to circumstances, unless a liberal dressing of barn-yard manure be applied to it, in periods of from two to three years.

In very many cases the corn crop is fed on the ground to beef cattle and hogs. This practice prevails more extensively in the southern portion of the state than in any other. At first sight the system appears slovenly and wasteful, but it really possesses some favorable features that deserve consideration. By feeding the crop on the ground to horned cattle and hogs, the latter pick up and consume what the former would destroy and tread under foot, and the whole crop, including corn, leaves, and most of the stalks, are masticated by the animals, and converted into a liberal supply of the very best kind of manure for the corn plants. When the interest of land, taxes and cost of production are carefully computed, the actual cost of a bushel of corn on the valley lands does not exceed 12½ cents per bushel; and in favorable seasons will not equal that sum. At the prices that beef and pork brought in the market the past and present seasons, corn judiciously converted into beef and pork on the principle adverted to, would pay from 25 to 35 cents per bushel. This is a full average price for corn in Ohio, and by feeding it on the ground the labor of cutting up the crop, husking and cribbing it, and drawing it to market are avoided, and besides the ground is improving rather than being exhausted, as would be the case by the common process. The number of cattle fed and driven to the eastern markets, in the district of country lying south of the national road, average annually some 30,000, a very large portion of which are first fed on grass till tolerably well fattened, and then put on corn in the manner described during the fall and winter months till spring, when they are driven in droves ranging from one hundred and fifty to two hundred head in a drove. The largest feeders drive from four to eight hundred head per annum, and the business to present appearance will yearly become better, as the facilities for getting to the eastern markets become increased.

There are many things to admire and a still greater number to deplore in the methods of cultivation adopted by the corn growing farmers of Ohio. They have well learned the secret of extracting from the soil, its fertilizing properties. This they do by deep plowing and by frequently working the corn with the one horse plow, or shovel plow. But when we have said this on the favorable side, but little more can be added, unless an expose be made of the wretched barbarous systems that very generally prevail, which have the result of impoverishing the soil, without giving any adequate return to the proprietor of the land for the money and labor expended in the operation. Happily a better state of things may be expected through the instrumentality of agricultural societies and papers, and also from the example of the few enlightened farmers that are dotted over the country, exciting an almost magic influence on the minds and practice of their neighbors.

The plan of growing corn, wheat and oats for a series of fifteen or twenty years on the same soil, without allowing a clover crop, a naked fallow, a root crop or a liberal barn-yard manuring to alternate—to say the least of it, deserves no better name than wretchedly bad farming. This or other plans equally obnoxious, find favor and are extensively practiced in many portions of this great and flourishing agricultural state. The average annual agricultural products of this state, might be constantly on the increase by adopting a rational system of culture and rotation of crops, without increasing the cost of production. The quantity of corn and wheat cannot be greatly increased by the present system of farm management, even including what are raised on new lands brought into cultivation; but a great danger exists of a rapid decrease, which can only be avoided by the adoption of improved systems of cultivation that have for their object the improvement and increased production of the soil. The average yield per acre should be sought to be increased, without in the end exhausting the fertilizing properties of the soil, and this object once generally accomplished, will entitle this to be the first agricultural state in the union.

Poultry and Poultry Books.

A Treatise on the History And Management of Ornamental and Domestic Poultry. By Rev. E. S. Dixon; with large additions by J. J. Kerr; illustrated with original figures of Fowls, Philadelphia: E. H. Butler & Co.

It is not more true that mankind are subject to certain epidemic diseases, than that they are also subject to various excitements of a social and pecuniary nature. The commercial world has had its speculative manias, which have at times deeply occupied public attention, and have been seriously disastrous to the fortunes of individuals. Thus England has had its "Darien" and "South-Sea" schemes, its "Railway Mania," &c.; France its "Mississippi Scheme," and Holland its "Tulip Mania." America is not less subject to such excitements, and they have been extended more to the agricultural community, than in the old world. Hence, at different periods we have had the "Merino Fever," the "Down East" and other land "Fevers," the "Multicaulis Fever," the "Berkshire Fever," and lastly, the "Hen Fever," which, to some subjects, will probably be worse than the "Chicken Pox."

It is not to be maintained, however, that the consequences of these excitements, though in many instances highly injurious, are entirely without benefits. They have, in various instances, established important facts; and, though the lesson has been dearly bought, it has served to teach many the distinction between "good and evil," in regard to subjects of which they had previously but little knowledge. Thus, the great attention which is now given to poultry, may prove of more or less benefit, by imparting a knowledge of the proper modes of management, and of the characteristics of different breeds. When the peculiarities of each become fully known, people will be better able to select those which will best answer particular purposes; and if the various trials could be properly conducted, and the results recorded, they would form a valuable source of information for the future. But to render these experiments valuable—to develop by them light, which will be useful, either in a physiological or economical view—they must be conducted systematically, and the results must be placed in an intelligible form.

The eagerness of our people to acquire information on this subject, is shown by the avidity with which they have seized the various effusions in the department of poultry literature, which have appeared within the last eighteen months. No less than *five* different poultry-books have been published in America during the last and present year, besides several editions of former works, and the importation, to a considerable extent, of several of British origin. The character of most of these books, is by this time pretty well understood by the public. A prominent object with most of the American authors, has evidently been to extol the value of certain varieties of fowls, which either are, or are represented to be, rare in this country. This has stimulated the demand for such fowls; a desire to obtain the fowls, or to learn what they are, has induced the purchase of these books, and the books have induced the purchase of the fowls. How long a profitable trade of this kind can be carried on, cannot be foretold. As to the trade in the books, much, doubtless, depends on the accuracy of their descriptions, and the general truthfulness of their contents; for it is not to be doubted, that in this, as in other business, the sequel will prove that "honesty is the best policy."

But to proceed to a notice of the work whose title appears at the head of this article. The reader is led to suppose from this title, that the work comprises not only that of Mr. Dixon, but that it has "large additions" besides. The same idea is held out in the preface. It begins thus: "In offering to the public Mr. Dixon's Treatise 'On Ornamental and Domestic Poultry,' the Editor begs to submit a few preliminary remarks." The editor, Dr. Kerr, then goes on to say, that he had been induced to engage in the work because the public had "seemed pleased with occasional articles" he had written on poultry, with the signature of "Asa Rugg." On "carefully consulting" the various treatises on poultry, he says, he "came to the conclusion that the Rev. Edmund Saul Dixon's work on 'Ornamental and Domestic Poultry,' was decidedly the best. I [he] determined, therefore, instead of adding *another* book to this branch of Natural History, merely to edit this, adding portraits of the most important fowls described," &c.

After all this from the title page and preface of Dr. Kerr's book, persons who have read Mr. Dixon's, will be surprised to find that the two books have comparatively little resemblance. In fact, the former is less a copy of the latter than is Mr. Browne's Poultry-Book,[*] in which Mr. Dixon's is only *incidentally* acknowledged. Dr. Kerr has not even followed Mr. Dixon in his general arrangement; but has in several instances given names of breeds not recognized by Mr. D., and has changed the names as given by the latter, in such a way as to completely nullify and contradict his statements. Thus Mr. Dixon forms into one family, called Hamburghs, the varieties known as Bolton Greys, Bolton Bays, Creoles or Corals, &c., *none of which have top-knots*—all the latter being comprised by him under the name of Poland Fowls,—as Black Polands, Golden Polands, and Silver Polands. He says "Certain fowls with top-knots are called by the above names, sometimes also Polanders.' It is proper to say, in passing, that Mr. Dixon's arrangement in regard to Hamburgh and Polish fowls, agrees with that of the London Zoological Society, and the Birmingham Poultry Association. Dr. Kerr, on the contrary, begins his chapter on Hamburgh fowls, by saying that the Spangled have "large top-knots, colored instead of white, and the black and conspicuous muffle or ruff on the throat and under the beak." And, as if to confuse and perplex the reader, he inserts, in the midst of Mr. Dixon's description of the Hamburghs, (the chief part of which he copies,) a cut of these top-knot and muffled fowls! Could anything be more absurd than this perversion of the language and meaning of an author? Indeed, after a pretty thorough examination, it is difficult to discover any better reason for the use of Mr. Dixon's title by Dr. Kerr, than the advantage which would be afforded by the popularity of Mr. D.'s book. It is true that Dr. Kerr has extracted much from Mr. Dixon's book, as well as considerable from others—in some instances perverting the sense and in others omitting the requisite credit—[*] though none of the authors he has thus pillaged will be desirous of standing god-father to Dr. K.'s bantling. But Mr. Dixon's particular opinion of his namesake has not yet transpired. It seems, however, that Mr. Dixon, when he wrote his book, was not entirely unacquainted with the compiler of the work under examination. At pages 293, 294 of Mr. Dixon's second edition, an extract is given (in a note) from a letter signed "J. J. K., Kensington, Philad: N. America." This letter describes two importations of fowls said to have been made "direct from Shanghae.' Mr. D. remarks, in relation to the difference between the fowls of these importations, as described in the extract, that the "learned poultry fancier" would probably turn the difference to good account. "The name of Cochin-China," says Mr. D., "is appropriated to the first variety; 'Shanghae fowls' may with advantage be given to the second." Now just what is here given as a prediction, has been done—fowls from Dr. Kerr's two importations "direct from the city of Shanghae," having been exhibited at the last Boston poultry-show as different breeds—the one "Cochin-China" and the other "Shanghae." The names of the exhibitors can be given, if necessary. It is fair to say, however, that they probably gave the names by which the fowls came to them from Dr. Kerr.

This accommodation to circumstances is in some degree explained by the fact, that some of the Boston "fanciers" regard the Cochin-China and Shanghae fowls, as distinct breeds. Their savans have taught that this distinction consists in the legs of the former having no feathers on them, while those of the latter are feathered. This distinction is attempted to be set up by Dr. Bennett and Mr. George P. Burnham. (See Bennett's Poultry-Book, pp. 33, 34, and Dr. Kerr's book, pp. 148, 149.) Dr. Bennett, indeed, argues that the Shanghaes and Cochin-Chinas, come from very different countries—

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[*] The American Poultry-Book. By D. J. Browne, New-York, 1850.

[*] In Dr. Kerr's chapter on the game fowl, he copies several pages from Nolan's work on poultry. He says before beginning to copy it that he takes "the following" from a "work recently published in Ireland." This is all the credit, and there is nothing whatever to show how much was meant by "the following."

the former, he says, "from the mountains in the extreme north of China"—"the Cochin-China originates in a country of that name, in a more southern latitude." And he raises the hypothesis, that "nature may have provided the Shanghae fowl with feathers upon their legs and feet, as a protection," which "protection" is thought to be unnecessary for the Cochin-Chinas in their native climate. This, Dr. Bennett says, is his "opinion;" but he complains that "many poulterers declare, spite of 'feathers or no feathers,' that their fowls are 'Cochin-Chinas' *or* 'Shanghaes'—just as they please"—adding, that he finds in many instances, "a decision on this point depends entirely upon which particular kind *you want to buy*." [p. 34.]

Perhaps Dr. Kerr could inform the public whether any such motive as that hinted by Dr. Bennett in the expression last quoted, had any influence in giving the names of "Cochin-China" and "Shanghae," to his two importations, which he says were "direct from the city of Shanghae."[*]

But on perusing the preface to the work whose title is at the head of this article, the reader will be led to believe that Dr. Kerr has formed a determination to have nothing more to do with this nonsensical twaddle of fowls, being sometimes Shanghaes and somtimes Cochin-Chinas, for in a note on page 10, he says he "is quite confident that the fowl described in English treatises on poultry as the Cochin-China, is, when pure, identical with our thorough-bred Shanghaes." Bnt as we proceed in examining the work, we find he by no means relieves himself from these inconsistencies. His sixth chapter is headed "Varieties of the Shanghae Fowl," and his seventh "The Cochin-China Fowl." The former opens with four figures, said to be "portraits of Dr. Kerr's Shanghaes"—three have, and one has not, feathers on the legs. Next, in the same chapter, we have "portraits of Mr. E. R. Cope's Shanghaes" which it is said were imported in April 1850, "direct from the city of Shanghae." There are three figures, none of which have any feathers on the legs. In the chapter on "Cochin China Fowls," we have "portraits of Mr. E. R. Cope's Cochin-Chinas," said to have been procured "last summer" (1850) of Messrs. Baker, of London. They are thickly feathered on the legs. Next, in this chapter, we have figures of Mr. G. P. Burnham's "Cochin-Chinas," and another plate entitled "Mr. G. P. Burnham's Royal Cochin-China Fowls," all of which are represented without feathers on the legs; and several pages from Mr. B.'s pen are inserted, in which he labors to prove that there is a "distinct" difference between the Cochin-Chinas and Shanghaes, chiefly in regard to the legs of the former not being feathered, and the latter being, when "pure, heavily feathered upon the legs."

It is hardly necessary to say that whatever distinction some may pretend to make between the Cochin-China and Shanghae fowls, or those known by these names in this country, it is a distinction without a *real* difference. Nothing of the kind is recognized by Mr. Dixon. Neither does he or any other English author on poultry recognise Dr. Kerr's pretended distinction between Malay and Chittagong fowls. It is true, however, that Nolan, an Irish writer, says, though the Chittanong is "frequently confounded with the Malay, there is no doubt of its being a *distinct species*."(!) But it is not worth while to occupy space with this matter, since Dr. Kerr, himself, admits that the very fowls to which he has applied the name of Chittagong, were formerly known, and indeed, are almost every where called Malay. A little attention, however, may be given in relation to what Dr. Kerr says of the Chittagong, and the place he assigns it in his arrangement of breeds. After having noticed what he calls the Malay, and other large fowls of the same tribe, he introduces the Pheasant Malay, the Guelderland, the Dorking, the Spanish, and the Game fowl, (comprising five different chapters,) and then comes to the Chittagong, which forms his fourteenth chapter or division of breeds. Of this fowl he says—

> "In and around Philadelphia, we have a large fowl to which the above name has been incorrectly given, as, on further acquaintance, it has proved to be a mongrel, and like most mongrels, comparatively worthless. Until within a short time, it went under various names, as Ostrich Fowl, the Turkey breed, the Big breed, the Booby, the Bucks county Fowl, *and even the Malay*."

An interesting question here presents itself, viz: whether the fowls described in this quotation as "mongrels, comparatively worthless," are not the same as are figured and described as Chittagongs in Dr. Bennett's book, (pp. 27, 28, 305,) which are there said to have been obtained from "Asa Rugg, Esq., [the '*nom de plume*' of Dr. Kerr] of Kensington, near Philadelphia," and of which it is remarked, "they are, as near as may be, perfect samples of their kind, and excite astonishment and admiration in all fowl fanciers who behold them?"

Again: Dr. Kerr says of these Chittagongs, (in his book, p. 270)—"I once had a *Pullet* of this kind which weighed eleven and a quarter pounds." And under the head of "Cochin-China Fowl," (p. 143,) he says—"I had a Pullet once, a mixture of Malay, Cochin-China, and perhaps Shanghae, that, when she came to her first laying, being then about seven or eight months old, weighed exactly nine and a quarter pounds; and when she began to lay the third season, she weighed *thirteen and a quarter* pounds. She then passed out of my hands."

In the appendix to Dr. Bennett's Poultry Book, (p. 305,) is a "portrait, drawn from life," of what is called "Imperial Chittagong Fowl," procured from this "Asa Rugg, Esq., of Kensington, Philadelphia." It is claimed that the original of the figure "is unquestionably the largest *hen* in America, weighing *thirteen pounds and four ounces*." In the same book, (p. 309,) an extract is given from a letter of the same "Asa Rugg," in which he says—"I have a Chittagong hen, three years and three months old, which last spring weighed *thirteen and one-fourth pounds.*"

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[*] There is some mystery in the accounts of the importation of Dr. Kerr's fowls, as given by him and by Dr. Bennett. In the extract from Dr. K.'s letter in Mr. Dixon's book, (before referred to) it is said that the two importations were made "in 1847, direct from the city of Shanghae; the one in the American ship Huntress, the other in the ship Tartar." Dr. Kerr states the same thing in his "additions," (so called,) to the book he has got up, under the head of "Varieties of the Shanghae Fowl," page 126. Now let it be borne in mind that Dr. Kerr acknowledges himself the veritable "Asa Rugg" of Dr. Bennett's Poultry-Book, &c. In that Book, under the head of "Cochin-China Fowl," Dr. Kerrs' (*alias* Mr. Rugg's) fowls, are spoken of as follows: "Of the purity of Mr. Rugg's stock, there can be no question, as they were imported by him, through Mr. Taylor, of New-York, in the ship Huntress, in May, 1847, *direct from Cochin China!*" [p. 42.] As the "doctors disagree," who shall decide whether the fowls came from Cochin-China or Shanghae?

Now, do not these descriptions by Dr. Kerr, and "Asa Rugg," and Dr. Bennett, refer to *one and the same fowl?* Was not the "hen" which these writers called Chittagong, and "Imperial Chittagong," in 1850, the "pullet" which, in 1851, Dr. Kerr says, (in his book, p. 143,) was "a mixture of Malay, Cochin-China, and perhaps Shanghae,"—and was she not of the same stock which, under the head of Chittagong, (p. 270,) he declares is "mongrel, and comparatively worthless?"

From the length to which this article has been already extended, it is impossible to notice the work under consideration as fully as was intended in the outset. There are one or two more points, however, which ought not to be passed over. One is the manner in which Dr. Kerr has put the matter of this book together—it is so *dove-tailed* and mixed, that a person who is not thoroughly acquainted with Dixon's and other works, would not know who to charge, or credit, with the language. First, we have a brief preface signed J. J. Kerr; next Dixon's preface to his first edition, and next his preface to the second edition,—both "condensed." Next we have "Chapter I. The Domestic Fowl," which opens as follows:

> "Preliminary to a description of the different breeds and varieties of fowls, some general account of them, and their management, will be appropriate; and I know of nothing better than the following, which I quote from Mr. Dixon. He says, in answer to the question, What is the earliest date of poultry keeping? Nobody knows. My own belief is, that it is coeval with the keeping of sheep by Abel, or the tilling of the ground by Cain," &c.

This is transcribed point for point. Now *what* is "quoted" from Mr. Dixon? Perhaps it will be said "the following." But where does "the following" begin, and where does it end? There is nothing in the book to show—no marks of quotation, no difference of type, nor anything else. It can only be ascertained by examining Mr. Dixon's book. The third chapter, (on eggs,) appears to be entirely from Mr. Dixon, but nothing is said or intimated as to its authorship, and for aught that appears to the contrary, the reader might think it was written by Dr. Kerr. The fourth Chapter, (continuing the subject of eggs,) begins thus: "I have taken some pains to ascertain the best means of preserving eggs." *Who* says this, Mr. Dixon or Dr. Kerr? The book does not tell. True, a little further along it is said—

"Mr. Dixon, quoting Mr. Cobbett, says, 'Preserved Eggs are things to run *from*, not after.' Perhaps so, perhaps not, as the case may be. At any rate, many articles of cookery which cannot be made without eggs, are not things to be run from," &c.

So it goes on to the end of the chapter. Who, without Mr. Dixon's book, can tell what is quoted from him in this case? Nothing is credited to him except the expression of Mr. Cobbett! So it is all through the book—the examples of this kind of *twistification* are "too numerous to mention."

A large portion of the work consists of letters obtaintained by Dr. Kerr from persons who own the fowls whose "portraits" are here given. Some of these letters contain useful information; the character of others, in some respects, admits of neither approval nor apology—at least,

'Immodest words admit but *this* defence,
That want of decency is want of sense.'*

From what has been said, it must not be supposed that it is the intention of the writer to endorse, wholly, Mr. Dixon's *own* book. The present, however, is not a convenient opportunity to speak of that work; it is sufficient on this occasion to say, that whatever defects it may be thought to have in a scientific view, it has a good claim to originality, is written in a chaste and agreeable style, and evidently from honest motives. OBSERVER.

The Milk Establishment of Geo. E. Adams.

EDITORS OF THE CULTIVATOR—When in the city of Boston a few days since, a friend invited me to ride out to Medford, some six miles distant, and look at Mr. Geo. E. Adams' stock of cows, and at his management of the same, for the production of milk for families residing in the city.

Mr. Adams has a well arranged barn, large enough to stable 60 cows, and to hold the hay annually consumed by them. The barn has a floor or drive-way extending through its entire length, with a bay on one side, and on the other side stables for the cows and a scaffold over them. Platform scales are set in the floor near one end of it, for the convenience of weighing loads of hay, and other bulky substances, and for weighing anything else bought or sold. Underneath the barn-floor and stables is a cellar, for the making and storage of manure. The cows are made warm and comfortable in winter, and by means of ventilators in the roof and upper regions of the barn, pure air can be furnished the cows, without subjecting them to currents of cold air. The barn can also be made cool and comfortable in summer.

The stock of cows varies in number from 40 to 60 head; they are mostly bought in the fall, milked 8 to 12 months, and then sold to the butchers for beef, at a price about $5 per head less than their cost as new milch cows. Some superior milkers are kept along for three or four years, producing calves each year; but as a general rule, it is considered better economy to sell most of the cows for beef at the end of 8 to 12 months, and purchase new milch cows fresh from the country, than to allow them to be in calf, and incur the expense of keeping them while dry.

The cows are pastured about four months of the year, commencing the first of June. They are stabled nights during the time, are milked at evening and morning in the stables, and have green feed, such as clover, cornstalks, &c. in their mangers, evenings and mornings. The rest of the year they are stabled night and day. Once a day they are turned into a warm shed erected over a well of water with a pump in it, the shed containing a long water-trough, with stanchels in front of it, where the cows are fastened until the stables are cleansed, and until they have drank their fill. Aqueduct water was formerly brought to the barn for the cows, but was found to be inferior to well water because of its greater coldness in winter. Experience has taught that the cows must be kept warm in winter, in order that they may be thrifty and give a good quantity of milk.

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* In some copies, a portion of page 268 has been taken out, and the hyatus marked by rows of asterisks. On other pages, as 254, 264, words have been changed, or blanks substituted.

During the eight months that the cows are kept exclusively in the barn, they are fed upon hay and meal. Twice each day they have a quart of meal a-piece, (in the proportion of three-fifths oil-meal to two-fifths corn meal,) sprinkled upon cut hay, and the whole moistened with water; they are also fed frequently during the day with a little dry hay at a time; twice a day they have a mess of "slops," or, in other words, one quart of meal a piece, each time, (two-fifths corn meal to three-fifths oil-meal) with sufficient water added to make a mess of three gallons measure to each cow. The meal, an hour or two before being fed in this form, is put into a large box, set upon low truck wheels; the water is immediately poured on, and the contents are frequently stirred, so that the meal may become thoroughly soaked and swelled, in which state it is thought to be more digestible, and to produce more milk, than if fed as soon as mixed with the water. A little finely-cut hay is stirred in with the meal and water, to give the mass greater consistency. When this drink is to be given, the box containing it is trundled along on the barn-floor, in front of the stalls, and from a large ladle, holding just the right quantity, each cow receives her mess, in a water-tight manger. The cut-feed is mixed in this same large box, which is moved along from stall to stall, for convenience of feeding. A clock in the meal room indicates the times when the cut-hay and meal, and the "slops" are to be given, and strict regularity of hours is observed in dispensing the same. More milk is obtained from the cut feed and the drink, than could be derived from dry hay and meal: more milk is obtained from feeding part of the meal in the form of "slops," than could be realized by feeding it all upon the cut-hay.

The meal keeps the cows in fine, sleek condition, and in eight to twelve months from the time they are purchased, they are good beef. They are carded daily, and kept perfectly clean. A trench behind them, four inches deep and twenty inches wide, receives the manure and urine, so that the platform or floor upon which they stand, or lie down, is always dry and clean, and so is the walk behind them, beyond the trench, dry and clean. Mr. Adams says, that in consequence of keeping the cows clean, the barn well ventilated, and of dispensing the feed with great regularity, he is seldom troubled with a sick cow.

Exact regularity of time is observed in milking, and the cows average about eight quarts each per day. The milk, as soon as drawn, is taken to a room at the house, and strained into large tin coolers, set in a vat containing ice-water in summer, and cold water in winter, in order to take out the animal heat, so that the milk may be fresh and sweet when delivered in town. The morning's milk is cooled as speedily as possible, and mixed with that drawn the night previous; the whole is then taken immediately to the city in small tin cans, and delivered to customers in two hours' time. All vessels into which milk is put, are daily washed and scoured, and kept perfectly bright and sweet. The milk-room is always neat and clean. The milk sells at five cents per quart in summer, and at six cents in winter.

Mr. Adams, by keeping so many cows, and feeding them high with meal, is enabled to make a large quantity of very strong manure. In order to preserve its strength, to save all the urine, as well as for convenience of cleaning the stables, he has a cellar under the barn large enough to hold a years' stock of manure. It is thrown into the cellar through scuttles in the stable floor, and about once a month, the heaps accumulating underneath are spread evenly about, and a quantity of loam tipped in, sufficient to cover the manure four inches thick; or, in other words, three parts of loam are mixed with two parts of manure. Before carting the compost out to the fields, it is shoveled over from top to bottom, and so thoroughly mixed as to make it of uniform quality throughout. Without the addition of loam, and the thorough mixture by shoveling over, the manure would be so wet and heavy as to create great inconvenience in loading, carting, and spreading the same, as there is a great deal of liquid manure, in consequence of the cows receiving so much of their food in a wet state.

In addition to the stock of cows, Mr. Adams keeps four or five horses for the distribution of the milk and for work on the farm, and two to four working oxen. It is therefore a great object with him to produce a large quantity and a good quality of hay for the support of his numerous stock. He has 30 or 40 acres of sandy and gravelly land, 20 acres of moist land, and 50 acres of salt marsh, all of which produce hay exclusively. Each field of the dry or upland soil is plowed every fifth year, in August or September. The land is smoothly turned over to the depth of eight or nine inches; thirty loads, or ten cords, of compost to each acre spread upon the furrows and harrowed in; one-half bushel of herds-grass, three pecks of red-top, and ten to twenty pounds of clover seeds sown to the acre, and bushed in; and the surface is then smoothed with the roller. In July of the next season the new seeding is fit for the scythe; and the land produces good crops of hay for five years. For the first year or two, the hay made from the new seeding is principally clover, which is mostly mowed and fed in a green state to the cows, in their stalls. For the remainder of the five years, the hay is red-top and herds-grass, with a mixture of white clover, which comes into the sward of itself. Twenty acres of moist land, lying upon a flat surface between the upland and salt marsh, are never plowed, but are kept in perpetual grass by a top-dressing of twenty-five loads of compost to the acre, every third year. Red-top and white clover are natural to this land, and at haying time a heavy, thickly matted swath of grass rolls from the scythe, which makes remarkably milk-producing hay for the cows. Thirty acres of the marsh produce a good quality of salt hay, and twenty acres, lying low, and being subject to flowage, yield an ordinary quality of hay. In feeding cut hay to the cows, a mixture of salt and fresh hay is given, which is agreeable to them, and promotive of health and thrift.

Mr. Adams raises a variety of fruit. His orchards of the apple, give, in good seasons, from five to six hundred barrels of fruit. There is an old orchard upon the farm that contains some of the largest apple trees I have ever seen; they are very sound and thrifty; their tops spread over a wide surface of ground, and the trees are very productive. The soil in this orchard is kept open with the plow; it is manured with about twenty loads of compost to the acre every third year, no crop being put into the land; indeed the foliage of the trees is so dense and luxuriant that no crop other than the apple can grow. Among smaller younger trees, corn is sown, in drills, for the production of green feed for the cows.

In a portion of one of the orchards the ground became badly infested with twitch-grass, which could not be killed with the plow. Last year the land so encumbered was fenced off by itself, several bushels of corn sown broadcast to the acre and plowed in, and fifteen or twenty hogs turned into the inclosure. They immediately began to root for the corn, and with the most untiring industry turned the soil over and over again. A few weeks after, corn was again sown and the land plowed and the hogs again rooted it over. Then the operations were again repeated; and this year no twitch grass is seen.

I had but an hour or two spend with Mr. Adams. I should have been glad to have devoted at least a day to an examination of his farming, for I saw enough while there to convince me that he is a very enterprising excellent farmer. I hope to call upon him again, at a time when I have more leisure; and if I do, I will give a more extended account of his farming. F. Holbrook. *Brattleboro', July 5*, 1851.

Harvesting Indian Corn.

Various modes of securing this important crop, have been practiced. The most common mode which formerly prevailed in the older settled portions of the Northern States, was to cut off the stalk a few inches above the ear, after the grain had reached a certain stage of ripeness,—usually indicated by the top of the stalk or "tassel," being dead. This is called "topping." The "top-stalks" thus cut off, are, when wilted, bound into small bundles, and afterwards placed in shocks to cure. The corn is left to ripen on the "but-stalks," and when sufficiently dry is harvested, either by breaking off the ear with the husk, or by cutting the stalk close to the ground. These modes are most common, though the corn is sometimes husked on the standing stalk. In the latter case, the stalks are usually cut and stacked or housed, after the corn is gathered. Where the ears are, with the husks, broken from the stalks, cattle are usually turned into the "stalk field" to eat the leaves, or whatever they find that is eatable, and the stalks are left to be plowed in, or to rot on the ground.

In the Southern States a similar mode has prevailed, with the addition of the "gathering of the blades." The latter operation consists in stripping the leaves, by hand, from the "but-stalks," after the corn has been "topped." The leaves are bound in bundles, and form excellent fodder for horses or cattle.

In the Western States, the practice of topping stalks has never prevailed as extensively as in the eastern and northern sections of the country. In the principal cattle districts, the crop is commonly cut and shocked, and fed from shock without being husked. In that fertile region, where corn grows from 12 to 15 feet high, and sometimes higher, it is inconvenient to cut the top-stalks, as the ears are often higher than a man's head. At the same time the large size of the stalk and the great bulk of the whole plant, render it expedient, in many instances, to cut the crop at the height of two or three feet from the ground. Even then the shocks are tall, and the ears are so far from the ground that the lower part of the shock remains open to the admission of the air. The but-stalks, which are left on the field, are too coarse and composed too much of hard fibre and corky pith, to afford much nutriment to animals. After standing exposed to the frosts and storms of winter, they are either cut off with scythes, or are beaten to the ground by a heavy wood implement drawn over them by horses or oxen, which leaves them in such a situation that they are readily plowed into the soil.

In some instances, in the west, the crop is left entire, to ripen in the field, and the ears when ripe are broken from the stalk. In such cases cattle are turned in to glean the field, and what they leave returns to the soil.

Topping corn is probably less practiced in this country generally, and especially in the northern portion, than formerly. There are several reasons for this. First, a conviction of the loss sustained in the value of the fodder; second, the loss in the weight and value of the grain; third, the liability of the crop being injured while in an immature state, by frost.

All these reasons are important. As to the first, the northern varieties of corn produce numerous leaves below the ear. If the stalk is cut to the ground just as it is beginning to "turn," and is properly cured, the whole is nearly equal in quality to the common top-stalks. On the other hand, the but-stalks being left in the field till the frost has extracted or soured their juices, are much depreciated in value.

It has been proved that cutting off the top-stalk lessens the yield of grain. The public is indebted to Wm. Clark, Esq., of Northampton, Mass., for several interesting experiments, which have established this fact. The result is, indeed, altogether reasonable, and in accordance with nature's laws in similar cases. What other plant would bear such mutilation without injury! Deprive the vine of its leaves, and the grape is imperfect. So it is with the apple, pear, plum, &c.

We have known no experiments made with direct reference to the comparative value or yield of corn when left to ripen, untouched, or is cut up at the ground and shocked; but it is probable that the superior quality of the fodder by the latter mode, would much more than counterbalance the advantage, if any, in the value of the grain by the former.

We see no reason why the same rule would not apply to Indian corn as to wheat, or other grain. It has been settled in regard to wheat, (and also in regard to rye and oats,) that the grain itself is worth more in the aggregate by being cut before it is dead ripe—even while it is soft and *doughy*—and while the straw has yet a considerable shade of greenness. Thus, the grain is not only of more value,—will make more and better flour,—but the straw is much better food for stock. It is undoubtedly so with Indian corn. It has, in fact, been noticed, that meal from corn that was cured in shock, is sweeter, swells more, and makes more bread than other meal.

It is fair, however, to state in regard to this mode of harvesting the corn crop, that it is sometimes cured imperfectly—from the bad manner in which the shocks are made, being packed too closely, or not sufficiently open at bottom; which, if wet weather occurs, occasions the ears, and sometimes the stalks, to mould.

But the advantage of securing the crop against frost, is in some instances one of the greatest inducements to shocking corn. This circumstance may operate with force the present season, as the crop is generally backward, and in some locations can hardly escape danger from frost—unless there should be an unusual extension of warm weather in autumn. As a security against frost, there is no question that putting the crop in shock is preferable to any other mode. Hence it is the course commonly adopted in Maine, and in all sections where the shortness of the summer renders the ripening of corn uncertain. It is the practice there, to cut the crop as soon as the grain is fairly *glazed*. It has been proved that it will cure, safely, if carefully put up in this stage; but if the weather is favorable, and is likely to continue so, it is often allowed to stand a few days longer. Sometimes, if a sudden change in the temperature indicates the occurrence of frost before the crop could be secured in shock, the whole force at command engages at once in cutting it down—throwing the corn in piles of a dozen or sixteen hills each. It is found that a light frost injures the corn but little while it is in this situation, and as soon as the wet is dried off, the following day, it may be put in shock.

But if it should happen that the crop is struck by frost while standing, it has been demonstrated that a less loss will be sustained by shocking it, than by any other mode. The years 1812 and 1816 are memorable from the injury done to the corn crop by frost—the latter season was especially remarkable for the shortness and general unpropitiousness of the summer. Over a large portion of the Northern and New-England states, frost struck the corn while it was "in the milk." As soon as the injury was ascertained, (and it was seen the morning of the frost,) the farmers set themselves to save as much of their corn as they could. Various plans were tried; such as cutting up the corn and tying it across poles, put up for the purpose, the ears downward; breaking off and husking the ears, and drying them on scaffolds or stagings; stripping down the husks and leaving the ear exposed to the air, on the stalk; cutting up the corn at the ground and placing it in small shocks.

The latter succeeded best of all the modes mentioned —especially where the work was done *immediately* after the frost. In 1836, the corn crop was much injured by frost, in many places. A writer in the *Genesee Farmer* of that year, describes the effects of topping and shocking, as practiced with two fields of corn, as follows:

> "We knew of two pieces of corn, owned by the same individuals, planted nearly at the same time, and both equally promising when their progress was stopped by the frost of the 5th of September. One of the pieces was immediately topped, and the other was, as soon as possible, cut up by the bottom and shocked. They were both husked a short time since, and the owners assured us that contrary to the expectations of many who witnessed the different modes of curing, they should get at least one-third more sound corn from that which was cut up, than from that which was topped and left on the hill." [Vol. VI, p. 370.]

Show of the Royal Agricultural Society.

London, July 16, 1851.

Editors Cultivator—The Royal Agricultural Society's Show is now in progress here, and there never has been an exhibition equaling it in cattle, sheep and swine; and in horses, it has, 'tis said, but once been excelled. The Short-horns and Devons were out in great force, and I never have seen, before this, what to me was a fair exhibition of these two important breeds of cattle. The show of Herefords and of Scotch cattle, is small. In the Short-horn class, the show of two-year-old and yearling heifers, exceeds anything I have ever conceived of. They are far superior to the aged class, showing that in this breed of cattle there is no deterioration, but a constant progress—and I may say the same of the Devons. The show of sheep is truly wonderful. The South-Downs and Leicesters, of course, being pre-eminent. By the premium list, which I send you, it will be seen that Jonas Webb has swept all before him in South-Downs—every prize being awarded to him, and those who have bred from his stock. He told me, that owing to the awards last year, in which he was floored for once, it became necessary to prepare for the show, and he has done it so triumphantly, that competition was out of the question. I have never seen anything that compares with his prize rams and ewes. The show of swine is truly wonderful. Never, before, have I seen an exhibition so extensive, and so good. The number of swine, it seems to me, is equal to the cattle and sheep. There are many very superior breeds on exhibition; but after a careful examination, I am decidedly of the opinion that the *Berkshires* are the best for us,—and was I to import swine to our country, I should select them in preference to any others. They have a monstrous breed here from Yorkshire—a white hog, which attains enormous size, and has mainly, I think, carried off the prizes in the large class—but I think them altogether too large, although they lay on fat finely. The horses are many of them very good—the hunters and carriage horses, especially—but the number of inferior stallions and mares is quite equal to what is seen at our shows.

The fatness of the stock is truly surprising, and the prizes were awarded to fat, and not to character, in many instances, if not in all. The aged bulls in the Short-horn class, to which the prizes were awarded, are entirely unfit for breeding purposes—especially the one to which the 2d prize was awarded, which was a fatter animal than I have ever seen in Smithfield market—more like Col. Sherwood's fat cow exhibited last fall, than a breeding animal. In the class of two-year-old heifers, the premiums were awarded to animals almost equally fat—one of them quite as much so. The best heifer in the yearling class, where the same rule was observed, was passed by the judges with this remark to the herdsman, "*Why don't your master feed his cattle better!*" I saw one of the judges in this class, at the stall of this heifer, with his brother, who is steward of the yard, and who I know to be a capital judge, and he said to him, "can you give any reason why you did not give the premium to this heifer?" and the judge, as they say in racing matters, was "no-where." I mention these things to show, that even in this country, where there are so many good judges of stock, *flesh*, not *character*, determines too often the awards, and that a man, if he wishes to get a prize, must make up his mind to ruin his animal for breeding, in order to obtain it.

The first prize in Short-horn cows, awarded, as usual, to Mr. Booth, and I think very justly. His cow was not over fat, though quite enough so, I assure you, but for style, substance, handling, in short everything that constitutes a first-rate cow, in my judgment, she cannot well be beaten. The competition was very severe, and her success certainly gave evidence of very superior merit.

In the Devon class, there was a show that does one's heart good, who delights to look on this superior class of animals as I do. The aged and young bulls were many of them very superior, but I must say, not one, in my judgment, equal to Mr. Morris' bull Major—and they may well be good bulls, and still not equal him, as he is, in my opinion, as they say here, "*capital.*" The cows and heifers, however, were most extraordinary—fine handlers, many of them of fine milking developments, and worthy of the attention they received. Mr. Geo. Turner received the first prize for cows, and in-calf heifers, and I can truly say that his stock was very fine. I liked best, take her all-in-all, the heifer of Lord Leicester, to which the 3d prize was awarded, but still I presume the others would, in the opinion of most judges, have received the awards which were given to them.

The show of Herefords was not large. The bulls did not, in my opinion, come up to what they should, but the cows and heifers were excellent. The first prize cow of Lord Berwick, and the 2d of Rev. Mr. Smythies, (from whom I believe Mr. Sotham purchased some animals.) were very fine indeed; and the two-year-old and yearling heifers were unusually excellent, and well sustained the reputation of this valuable breed.

The arrangements of the ground were excellent—the stock all under cover—a canvass roof to all the stalls made it very convenient and comfortable; we would do well to imitate this. The number of people was less than on the first day of our show—but as the admission was 5s. this will account for it. To-morrow is 2s. 6d. day, when there will be many more—and the dinner comes off to-morrow of which I will give you an account. The mail closes for to-morrow's steamer, and so must I. Truly yours, B. P. JOHNSON.

LONDON, July 16, 1851.

I have just returned from the second day's exhibition of the Royal Society at Windsor, and after a careful review of the whole stock, my impressions are the same as from my first examination. The young heifers in the three leading breeds of the show—Short-horns, Herefords, and Devons—are the great attraction, and they possess qualities, that more perfectly exemplify the perfection of breeding, than any thing I have ever seen. Mr. Lorrillard Spencer, and Mr. Thomas Bell, of Westchester county, were with me yesterday, and Mr. Bell to-day. I made to-day a more careful examination of the swine than I was enabled to do before. As a whole, they are very superior, but the monstrosities, to which the premiums were awarded, especially in the class of large breeds, are truly astonishing. The first premium on boars was awarded to a white boar from Chester, which was so fat as to be unable to rise, but with the utmost difficulty. That to which the second prize was awarded, was a complete mass of fat—his eyes *entirely closed*, and he was so much overpowered with his flesh as to be unable to rise, and there was a card placed on his pen, "*Do not disturb this boar.*" It was offered for sale for £30, for what purpose I cannot imagine, as no sane man would ever expect to breed from him, and for pork, of course, large as he is, he is not worth anything like the sum asked. Now it may be said, as it is said here, this shows the aptitude of the breed to take on fat, and it is therefore right to award premiums for animals in this condition; but if it is desirable to have good breeding animals, if our shows are designed to encourage them, it appears to me self-evident that the animals to which premiums are awarded, should be in a condition to be of service. But another objection, and which I find is fully appreciated by the best breeders and judges of stock here, is, that you cannot fairly judge of the real qualities of an animal in this overloaded condition, and although this may not with so much force apply to swine, still as a general principle it cannot be gainsayed.

In the sheep department, I made a very careful re-examination. The Leicesters, numbered—rams 121, ewes 75—196. The prize animals were truly models of what here is deemed perfection in this breed. The three prizes for yearling rams were awarded to Mr. William Sanday, of Home Pierrepont, Nottingham, and two of the prizes for ewes to the same; and in rams of any other age, the three prizes were awarded to Mr. T. Edwards Pawlett, of Beeston. I examined these prize sheep with much care, and although there were among so many entered, a large number of superior sheep, it appeared to me that those selected for the prizes were truly models for the artist, as well as the breeder.

The South-Downs were shown in great numbers—112 rams and 100 ewes—212. Owing to the fact that the prize last year had been taken away from Jonas Webb, the competition was more than usually animated. The great champion of these truly invaluable sheep, having been beaten by a tenant farmer unknown to fame, excited at the time great surprise, and encouraged every South-Down breeder, to come up to the show prepared to try his chance for the prizes. Mr. Webb, however, was on the ground, with such a display of sheep as really put competition at defiance. He had 25 rams, and taken as a whole, I never have seen that number of rams so nearly perfect—form, symmetry, fleece—everything almost as complete as if prepared by a modeller of the most approved ability. He had also 15 ewes, ten of which received the prizes. They were the admired of the show, and the multitudes who crowded around the pens to-day to view the prize sheep in this class, showed the great interest that this contest has excited.

In the class of *long wools*, as distinguished from the Leicesters, the prizes were all awarded to Cotswold rams and ewes. They were admirable sheep, and in my opinion preferable to the Leicesters. In this class, there were only 79 entered, mostly Cotswolds and New Oxfordshires. The 1st prize ram, owned by Wm. Garne, of Gloucestershire, was a superb animal, and of immense breadth and weight. One only of the New Oxfordshires was commended, but this was a very superior ram and nearly equal in all respects to his competitors. The first pen of Cotswold ewes, belonging to Wm. Lane, of Gloucestershire, were capital specimens of this breed of sheep.

The *mountain sheep* were Cheviots and Exmoors. The Cheviots were very fine indeed, and the Exmoor ewes, to which the first prize as shearlings was awarded, were unusually good. Under this division was exhibited a fine Shetland ram and 5 pure Shetland ewes. These were great curiosities—very small, with long coarse wool. The ewes were of the size of the small Welsh sheep so famous for their superior mutton, and these I believe are somewhat famous for the same purpose. The ewes were part white and part black—so wild that a net over their pen was required to keep them in the enclosure. The contrast between them and the large Cotswold buck, which would weigh more than all of them, probably, was very striking. A very singular ram was exhibited, entirely black, fine wool, rather smaller than our old Merinos, a cross between the Spanish and Welch sheep.

There were several Merino rams and ewes exhibited with their fleeces, all from Surrey. They were very fair representations of the old Spanish Merinos, had good forms, though rather small—the wool very fine, but quite short, more like the Saxons, much, than our Merinos. This kind of sheep does not meet with much favor here, as the great object is mutton, on which the people live, and the breeders thrive.

In the stock department, there are some curiosities on exhibition. The little Shetland bull mentioned yesterday, is a very fit companion for the Shetland sheep and but a very little larger. A Bramin bull, heifer and calf, in addition to the Roman bull and cow, attracted attention.

The Ayrshire and Alderney or Jersey stock, were very good indeed, and showed the peculiarities of those distinguished breeds, which stand pre-eminent for their dairy qualities. Some of the Ayrshire cows were very fine animals, of much larger size, than usually seen in our country, and although they showed the pure Ayrshire breeding, I could not but surmise, that possibly a trace of the Durham might be found in them. I was much pleased with the Long-horns, although there were only two bulls and five cows and heifers exhibited. One of the bulls to which the prize was awarded, was an animal that, take him all in all, could not have been easily beat in competition with the more popular breeds. The cows developed fine milking qualities; the heifers were very excellent, and I believe, that for some parts of England, the restoration of this breed in its purity, would not be detrimental to the farmers. The cows are now very generally found in all the large dairies; in some instances they are crossed with the Short-horn or old Teeswater, and they are very generally approved. They are a very hardy breed of cattle, attain large size, and although they do not attain as early maturity as the Short-horns, they are long-lived and are a very valuable breed.

I was most surprised with the *Sussex cattle*. When I first passed them, I supposed they were Devons, and I can now account for a race of cattle in our country, which pass for Devons, but which I have no doubt are descended from the Sussex. The cattle of New-England, in many districts, have the characteristics of the Sussex, and I believe a good selection made from these cattle on exhibition here, might have been imported to the United States, and sold without an objection, to most purchasers as Devons. I met Mr. Bell to-day, at the Sussex quarter, and he expressed his astonishment at these cattle, of which he had never heard. He noticed at once their great similarity to what are called Devons in America, and said he might have been deceived in them himself if they had been exhibited in the Devon class, and offered to him as Devons. At the Maryland State show, a stock of cattle was exhibited from the State of Deleware, called *New-York Devons.* I could not imagine where they came from. But my impression is that they are from the Sussex breed.

These cattle are very much prized in Sussex. They are rather larger than the Devons—probably they are from the south Devon stock, originally. They are generally a shade lighter color, and not quite as fine as the north Devon. They make capital working oxen, good beef, though late to mature, and they claim for them good milking qualities.

The *Scotch polled cattle* were few, and mainly of the Angus breed. They are very large, but develop very fair fattening propensities. When examining the Angus cow, which was remarkably fat, I met a London salesman, who examined her with great care and told me he never met with a more perfect animal for beef, and such, I confess, was my own impression, after a very close examination, though his opinion was of far more importance than mine. Of the Scotch *horned*, there were but few. Two West Highland cows, which showed the purity of that celebrated breed, but no bulls, except quite a young one on exhibition.

THE DINNER.—At 4 o'clock, precisely, the great dinner of the Society, for which 2000 tickets were issued, and all disposed of, came off. It was in a grand pavilion adjoining the show grounds, excellently arranged. Two tier of tables, raised five or six feet above the floor, were arranged on each side of the main hall. At one of them the Duke of Richmond presided—Prince Albert and the Belgian Minister on his right, and Mr. Lawrence, U. S. Minister, and the Mayor of Windsor, on his left. The residue of the tables on the side with the President, were occupied by the invited guests, among whom I was allotted a seat. The opposite raised tables were occupied by the Governors of the Society. Lord Portman, V. P., in the absence, (from illness,) of Lord Ducie, president elect, presided. The tables below were filled up by the members of the Society, and others who had tickets. Mr. T. Bell, one of our delegates, was present. So admirable were the arrangements, that *every one* had a seat, and every necessary attention. The eating of the dinner was, as you may well imagine, disposed of in no ordinary speed, most of those present not having broken fast since early in the morning. At length the trumpeters, one by the President, the other by Lord Portman, on the opposite side of the hall, sounded the notes for attention, and the Duke of Richmond, after a few remarks applicable to the occasion and to the toast, proposed the health of her Majesty, the Queen, which was received with great applause, as it is everywhere in this country. The Duke is not an eloquent speaker, so far as manner is concerned, but he has great tact in what he says, and in the speeches which he made during the dinner, gave many capital hits, which elicited rounds of applause.

The next toast proposed, was Prince Albert, Prince of Wales and Royal family, &c. The Duke of Richmond, in proposing the toast, spoke of his Royal Highness as the patron of the Society, and as an example of domestic virtues in all his relations, which had made the home of their beloved Queen the abode of comfort and happiness. The toast was received with great enthusiasm. Prince Albert rose and made some very interesting remarks in answer to the toast. In alluding to the holding the show in Windsor Park—he drew attention very happily to the scene where King John, trembling among his subjects, unwillingly signed that great charter which has ever since been the birthright of Englishmen. Your present sovereign, he said, came confiding among her loving and loyal people—she came to admire the results of their industry, and to encourage them to persevere in their exertions, and the gratification the Queen has felt at the sight of the splended exhibition, must be participated in by all who see it.

His remarks were received with great applause. The Prince is a fine looking man, very graceful in his movements, and speaks with much readiness—is very self-possessed, and the impression made on those who had not before heard him, was of the most favorable character.

The health of the Foreign Ministers was next proposed, and was responded to by M. Van de Weyer, the Belgian Minister, in a most capital speech, in fact *the* speech of the day. He speaks English without a foreign accent, and his manner was very pleasing. He alluded very handsomely to the agriculture of the Flemings, and paid a tribute to that early improvement of agriculture among his own people, which has placed them high on the lists of agriculturists. He alluded very playfully to the despatches that foreign ministers are now in the habit of sending home. Instead of containing diplomatic despatches, he said, the *red boxes* that are now sent from the minister here to his court abroad, more frequently were composed of matters relating *entirely* to the agriculture and stock of England.

The Duke of Richmond responded very effectively to a toast to his health as President of the Society. Lord Portman made a very good speech in introducing a toast to agriculture, manufactures and commerce. Mr. Lawrence, U. S. Minister, spoke very well indeed, on introducing a toast to the Mayor and Corporation of Windsor. Mr. Lawrence's fine personal appearance, as well as his address, secure for him attention. He alluded most happily to the consanguinity of ties between a large portion of his countrymen and Great Britain; expressed his and their desire, that peace and commercial intercourse should continue. He alluded to the ancient castle near which the great exhibition was held, as dear to Americans from its associations, for the great rights of freedom which had here been secured; and also to Eaton Hall, that ancient seat of learning, from which had come forth so many great and distinguished men in every department, whose fame belongs to America as well as to Great Britain. The Mayor reponded to the toast in a few remarks suited to the occasion.

Mr. Miles, M. P., (who, from the applause with which he was received, I conclude is a great favorite with the farmers,) introduced a toast to the Judges and Stewards of the Show. It was responded to by Mr. Fisher Hobbs. Lord Ashburton proposed the health of the Laboring Classes, and accompanied it with some very interesting remarks. Mr. E. Dennison, M. P., proposed the '*Sister Societies of Agriculture*.' In rising, he was greatly cheered, and I doubt not he is well known to the farmers present. He said the customary toast to the Sister Societies of Scotland and Ireland had always been received with great favor by the Society, but at this time he would present it on more extended considerations—to Societies *wherever* they existed, engaged in the same great work with themselves. He alluded to Germany whose agriculturists and scientific men had done so much for them. He alluded to Lord Stanley as introducing to the British farmer guano, now employing 100,000 tons of British shipping to bring it to our shores. (At the mention of the name of Lord Stanley, who is the candidate of the Protectionists for Prime Minister, the hall rang with cheers, which continued for a considerable time and some difficulty was experienced in restoring quiet. This shows the feeling of this class of the English on this all absorbing question here.) He spoke of the important discovery of dissolving bones in sulphuric acid, as having been made by Liebig, a German chemist, which had proved of so much advantage to the farmers of England, and following up this discovery he said there was present to-day a gentleman from across the Atlantic, whom he had in his eye, (Mr. J., of N. Y.,) who had announced to the Royal Society the discovery of a mineral stratum, in the State of New-York, rich in the same compound as that of bones, and which could be brought to our shores at such a price as to place it within the reach of every farmer. (Prolonged cheers.) (I had presented at the last meeting of the Council of the Royal Society, a sample of the phosphate of lime received from Prof. Emmons, from Crown Point, in our State, and received from the Duke of Richmond a letter thanking me for the same, and expressing himself as very anxious to receive from our country this valuable mineral, should it prove, as it is believed it will, a valuable fertilizer.) Lord Abercorn responded very happily, indeed, in behalf of the Irish Ag. Society. He is an uncommonly fine looking man, and his address very prepossessing. In alluding to the great famine which had brought such distress upon that unhappy country, he said an allwise Providence had overruled it for the good of that Island, and that the prospects of agriculture had never been so full of promise as at present. The Duke of Richmond, in the absence of the Marquis of Broadalbane, responded for the Highland Society, of which he had been President three years. He said, being half Scotch and half English, he claimed the right on behalf of the farmers of Scotland to respond to this toast.

It was peculiarly gratifying to me during this whole meeting to witness the good feeling and the *hearty* applause with which every allusion to the United States was received, and it seems to me, that whatever feelings may prevail elsewhere, among the *farmers* of England, that of friendship and good will to us is most apparent. I have found this everywhere I have been among the farmers, and I cannot doubt that it is truly sincere.

The remaining proceedings were a toast to the Railroad companies and a reply, and the health of the President elect.

Thus has closed this annual festival of the agriculturists of Great Britain. The attendance this year was much larger than usual, owing, in some measure, to the favorable location but more to the Great Exhibition, which has brought here so many foreigners, many of whom were present to-day. The show ground was very full to-day, and it was not easy to examine the stock, owing to the crowds pressing around the stalls. To-morrow, the shilling day, there will be such a rush as we have at our shows, undoubtedly. My engagements at the Crystal Palace will prevent my attendance.

This Exhibition shows, that whatever may be the effect of the present free-trade system in this country, the breeding of stock is certainly making commendable advances. Never before, it is admitted by all here, has there been such an exhibition, for its character as well as numbers, and I cannot doubt that the raising of stock here pays well.

I am greatly indebted to attentions received during the show, from the President of the Society, Mr. Hudson, Sec'y., Mr. Shaw, editor Mark Lane Express, Mr. Fisher Hobbs, Mr. Dennison, Mr. Mechi, Mr. G. Dale Trotter, Mr. Jonas Webb, and others to whom, in behalf of our Society, I desire to tender cordial thanks. Yours truly. B. P. Johnson.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Cold Grape-Houses.

Twenty or thirty years ago, large importations were made of foreign varieties of the grape, and extensive vineyards planted by some enterprising individuals. But after trying nearly every variety, they were nearly all found quite unsuited to open-air culture, and raising grapes out of doors is now mostly pursued with the American sorts. But the superior delicacy, flavor, and sweetness of some of the foreign grapes have saved them from rejection, and of late years cold graperies having been found admirably suited to their successful culture, they are becoming very common. Fire heat being entirely dispensed with, the cost of maintaining these graperies is small. In order to fit them for general use, the buildings themselves should be constructed in as cheap a manner as possible, as this happily has been attained in a remarkable degree.

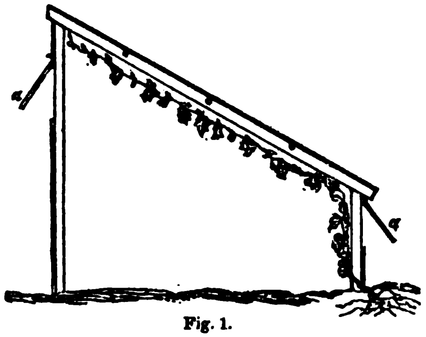

Fig. 1.

The cheapest mode of construction, of the many plans presented of late years in horticultural journals, or reduced to practice, is substantially the following: The walls consist merely of posts set into the ground, and covered with common rough board siding. This may be whitewashed or painted. The cost of the glass-covering is greatly lessened by the use of *fixed sashes*, made in the simplest manner, the necessary ventilation being effected by means of small board shutters, *a a*, (Fig. 1,) opening outwards on hinges, placed at intervals along the back and front walls. Fig. 2 represents a portion of the glass roof—*b b* are the rafters; *c c* are cross bars made of strips of inch board about two and a half inches wide, set on edge, and narrowed at the rafter and let into it sufficiently to be on a level with its top. These cross pieces support long slender bars parallel with the rafters, and formed on the top in the shape of a common sash bar, and receive the panes of glass.

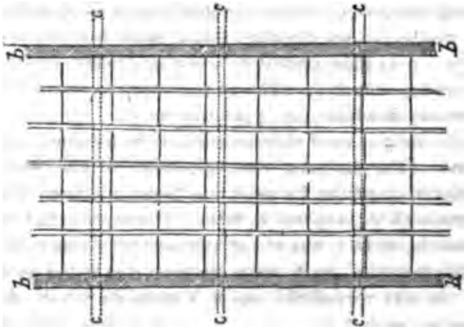

Fig. 2.

It will be at once perceived that the construction of long frames of sash, made to slide up and down the roof, which constitute a large item in the expense of glass structures, is entirely obviated.

The vine border is to be made on the outside of the front, and the vines brought within and trained along the under side of the rafters, within seven or eight inches of the roof.

The main features of this plan of building were published last winter in the Horticulturist, as adopted by T. Rivers of Sawbridgeworth, England, although it is not entirely new in this country.

The American Pomologist.

This valuable and splendid new work,—a large quarto with colored plates,—is edited by Dr. W. D. Brinckle, and published by A. Hoffy, of Philadelphia. It is to be devoted entirely to American Fruits, and in this particular occupies distinct ground from any other existing publication. Each number is to contain ten colored engravings, exhibiting the fruit, shoots and leaves of each variety. The attempt has been very successfully made by A. Hoffy, the artist, to represent the specimens in what may be termed their ordinary every-day colors, and not, as is too often the case, marked with more of the brilliancy of paint than of the skill of the artist.

Those who are aware of the high reputation of Dr. Brinckle as a pomologist, will need no assurance of the ability with which the work will be conducted; and another proof of the zeal and disinterestedness he has long shown in the improvement of fruit culture, is furnished by the fact that he assumes this task without any pecuniary reward.

The first number contains figures of the Brandywine

Moyamensing, Petre, and Pennsylvania pears; the Republican Pippin, Eliza Peach, Burlington Apricot, Wendell's Mottled Bigarreau, and Col. Wilder and Cushing Raspberries.

Each is to appear quarterly, at two dollars per number, four numbers making a volume of forty plates; a price quite as low, probably, as can be afforded. We most unhesitatingly recommend it to the patronage of all cultivators of fine fruit.

Rotting of the Cherry.

Last year the earlier cherries decayed from wet weather, and a large portion of the later varieties escaped. This order was reversed the present season, the most frequent rains occurring at a later period. According to limited observations, trees which stand rather thinly on the ground, on rather elevated or exposed situations, where the air can circulate freely, more frequently escape. An eminent cultivator, in a late letter makes the following remarks:—"If we are to have any more such wet seasons as this, and I presume we shall, then several of the light-colored cherries ought to be set down a peg lower. For instance: Not one-tenth of the Yellow Spanish, or of the Large White Bigarreau, ever ripen, because they rot in wet weather. I have seen the latter however, when it was one of the very largest as well as the best kinds. Now, there are sorts that either do not rot, or only very little; and it is certainly worth while to select such."

Inquiries and Answers.

Hedges.—"What is the best hedge plant? Is there a perfect hedge of the Osage Orange in any of the Eastern States? Can a hedge be made cheaper than a rail fence?" *T., Jackson county, Iowa.*

The two best hedge plants are the Buckthorn and Osage Orange. The former is perfectly hardy, grows very freely from seeds, and if transplanted with ordinary care there will not be one failure in a hundred plants. But, there are two requisites that are indispensible. It must not be sheared flat on the top, but wedge-form or tapering to a sharp ridge, otherwise it will not be sufficiently dense at bottom. This form must be commenced before the hedge has become half grown. The other requisite is a rich soil, made so if necessary by manuring; and mellow cultivation on both sides, to accelerate its growth.

The Osage Orange is more tender, but will succeed where the peach crop escapes frost. It is more difficult to transplant, but does well with proper care. It makes a most formidable hedge. There are few if any full grown hedges in the more Eastern states, but many experiments are in progress.

Neither of these two plants appear to be liable to any disease or to the attacks of any destructive animal.

The cheapest hedge is one that is well cultivated and well cared for, as it will come into use in a third of the time needed for the neglected hedge. The entire cost from the commencement till fit for use, has usually been found to be about fifty cents per rod. A chief objection to hedges, and which retards their introduction, is the *time* required for their growth, which usually extends far beyond the patience of our hasty cultivators.

Manetti stocks for Roses.—"What is the chief advantage which this stock has over others—and would you recommend to procure it at considerable cost?" *R. B.* The chief advantage of the Manetti stock, is that it throws up no suckers. Some roses, commonly used for stocks, as for example the boursalts, increase chiefly by suckers, and hence they are always a greater or less annoyance. But the Manetti, being propagated by cuttings only, is free from this evil. Like nearly every new thing, however, its merits are probably rather magnified beyond reality. All roses, where practicable, should stand on their own roots—many are as easily increased by cuttings as the Manetti, and others may be propagated by layers. To a few, however, neither of these modes apply—and here good stocks become valuable.

Cherries.—"In the last number of the Cultivator, you give us a small select list of cherries, for a succession—what other fine kinds would you add? I observe the Downton is not included." *A. L. N.*

The list given in the last number, was intended to comprise such as were both productive and of fine quality; the Downton is not so great a bearer as some of the others, and was therefore omitted. To make a larger list, we might add to those already given, American Heart, Cleveland Bigarreau, Mayduke, Belle de Choisey, Knight's Early Black, Yellow Spanish or Graffion, Napoleon Bigarreau, Downton, Holland Bigarreau, Burr's Seedling, Plumstone Morello.

Cincinnati Horticultural Society.

(1.) For an account of this season's proceedings of this mature and vigorous association, we are indebted to Warder's Horticultural Review. We gather from the account the following interesting facts. One of the most important of its acts is the award of the hundred dollar prize, offered some years ago, for the best strawberry superior to Hovey's celebrated Seedling. This premium was given to *McAvoy's Superior*, formerly known as McAvoy's No. 12, and which is thus described:—"Pistillate, very prolific, large, dark-colored, high-flavored and luscious—a hardy plant; the specimens exhibited superior to Hovey's Seedling, or any other strawberry that came under the examination of the committee."

(2.) The committee also notice "*McAvoy's Seedling Pistillate No.* 1; large, prolific, bright scarlet, not high-flavored, but the handsomest dish on exhibition. *McAvoy's Extra Red Seedling*,—pistillate, large, beautiful, very prolific, quality medium, not high flavored. *Schnecke's Hermaphrodite Seedling*,—the committee propose the name of Longworth's Prolific, to be so called because N. Longworth gave the seed; the largest and most prolific hermaphrodite strawberry known to the committee, and *equally prolific with any other variety;* the plant is more hardy than Hovey's, and is recommended for general cultivation after four years trial."

(3.) In connexion with the commendation above bestowed on *McAvoy's Superior*, it must be observed that several collections contained Burr's New Pine, regarded by many cultivators as the best of all strawberries.

(4.) *Longworth's Prolific* did not come in competition for the premium, the offer being confined to pistillates. N. Longworth, who has until the present time, maintained that no staminate or hermaphrodite could be a full bearer in this country, it appears has given up this point, for he bears the following testimony in favor of this new variety:—"Since it commenced bearing, the new Hermaphrodite has produced a full crop of perfect fruit. This season, on the same border with Hovey's Seedlings, and other varieties of extra large size, *it bore the largest crop, and the average size of the fruit was larger than any other. If it shall continue to produce blossoms perfect in both organs, it will be the most valuable strawberry known.*"

(5.) Apples.—*Rawle's Janet* and *Newtown Pippin* were presented, "Sound and perfect." "In keeping and eating qualities, these two varieties may be considered rivals; and in productive qualities, the Janet carries the palm, as it seldom fails to produce a good crop." The *Swaar* was exhibited "sound and in good condition; *Jonathan*, sound and handsome." The committee did not speak highly of the *Kingsley* of Rochester, although regarded as a good keeper.

(6.) Cherries.—The *Early Purple Guigne* and the *Rockport Bigarreau* are highly commended, the latter as "a magnificent cherry of great beauty."

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Horticulture not Forgotten.

The Lenawee county (Mich.) Agricultural and Horticultural Society, have shown by the list of premiums they have offered, a liberality and spirit of encouragement towards the culture of fruit and flowers, worthy of imitation by other county societies, and altogether ahead of even the New-York State Soc. a few years ago.

They offer $18 in premiums for apples; $9 for pears; $9 for peaches; $9 for cherries; $9 for plums; $3 for apricots; $3 for quinces; $9 for grapes; $4 for strawberries; $4 for gooseberries; $4 for raspberries, and $2 for currants; that is, $83 in all for fruits. For Roses, they propose $18; for other plants and flowers, $27. In addition to these, the Society offer $30 for discretionary premiums on Fruits and Flowers; $12, besides discretionary premiums, for vegetables; $12 for the best nurseries; and $6 for the best gardens; making, in all, for the encouragement of Horticulture, 188 dollars.

They also offer a premium for the best ten ornamental forest trees planted last spring by the roadside; and a premium for the best and greatest number of ornamental trees in or adjoining a road, saved from the destroyer's axe.

If all our county societies should imitate this example, the revolution wrought throughout the country, in rural comfort and prosperity, would in ten years be visible to the most careless observer.

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Qualities of new Strawberries.

At the exhibition of fruits during the present season in the Hall of the Massachusetts Horticultural Society, thec ommittee made the following decisions, relative to the quality and character of several new varieties of the strawberry:—

Ohio Mammoth, good, but not of first quality.
Scarlet Melting, of medium quality.
Burr's Seedling, do.
Columbus, do.
Scioto, very acid.
Late Prolific, acid.
Burr's New Pine, high flavored, very fine, of first-rate excellence.
Crimson Cone, acid, lacks flavor.
Charlotte, medium quality not much flavor.
Black Prince, below a medium quality.
Rival Hudson, high flavored, but very acid, of medium quality.
Unique Scarlet, of medium quality.
Montevideo Pine, fair.
Cornucopia, good, rather acid, well flavored.
Primate, indifferent.
Boston Pine, good.
Richardson's Late, very good.
Willey's Seedling, acid, indifferent.
Fay's Seedling, indifferent.
Early Virginia, good.
Aberdeen Beehive, very acid and indifferent.
Walker's Seedling, dark colored, good size, abundant bearer, of high flavor, very fine quality—staminate—worthy, the Committee think, of an extended cultivation.

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Hardy Pears.

James Mathews, of Coshocton, Ohio, writes, "My fruits were all killed here this spring by late frosts, except a few *Dix* and *Louise Bonne de Jersey* pears, which seem to be hardier than any other pears I have. But for this disaster, I should have had about one hundred varieties of pears alone, in bearing, in my garden, principally new kinds."

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Remedy for Plant Lice.

[The following was received too late to test its efficacy this season, all aphides in this religion having disappeared. Of the remedies, yet tried, whale-oil soap has been found most effective, and common strong soap-suds nearly its equal, and both greatly superior to tobacco water, unless the latter is made very strong, or stronger than a common decoction in hot-water.]

If you have any species of the aphis in your nursery, please make a trial of the following decoction:—Get from a druggist ¼ lb. of Quassia, boil it 15 minutes in six quarts of water; pour off the decoction into a dish pan with handles. When cool get an assistant to hold the pan while you carefully bend down and immerse the branches—giving them a little motion to wet all the insects. Look at your trees two days after; and if the aphides are dead, and the tender shoots uninjured, use and recommend the quassia and let the whale-oil soap perform some other office.

For young and tender buds or grafts, I use the spray from a nearly spent syringe where it is not safe to bend them over the pan. Most resp'ct. yours, E. G. Mygatt, M. D. *Richmond, McHenry county, Ill., July* 23, 1851.

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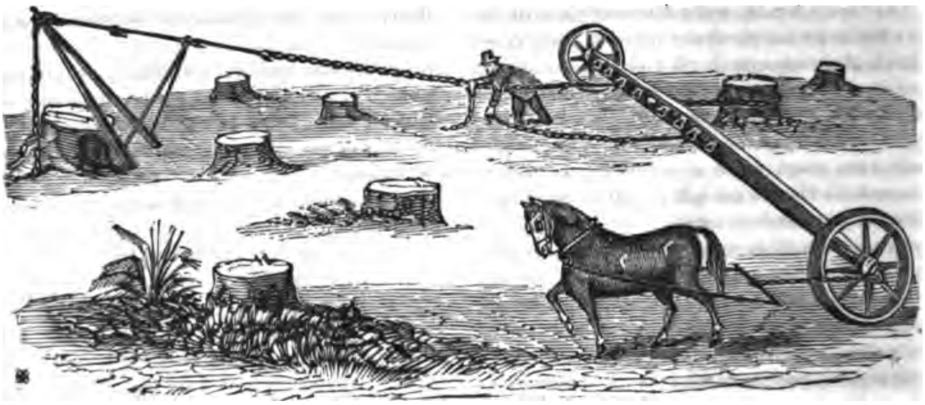
Protection against the Curculio.—It has frequently been remarked that fowls were more or less a protection against the curculio. A striking example of this has been shown the present season in the grounds of Wm. H. Southwick, New-Baltimore, N. Y. He has many very handsome plum trees, of good size, healthy, and vigorous. Several of these trees of different kinds, are enclosed in yards where fowls are kept—separate enclosures being necessary for the different breeds which are here bred. The trees in the fowl-yards are loaded with plums, while on the trees not so enclosed, almost all the fruit has been lost by the sting of the curculio.



STEWART'S PATENT STUMP-PULLER.

The Farmer's Note-Book.

Stewart's Patent Stump-puller.

The above is a representation of a machine which has been successfully used in several parts of this state and in the New-England states, for extracting stumps. The cost varies according to the size and power of the different articles—they being designed to possess a "purchase" of 250 to 1000 tons, and are sold at $50 to $200 each—the size in most common use costing the former sum. The operation of the machine is very simple, and may be readily understood from the cut, by persons who have only a moderate share of mechanical knowledge. A single horse is generally used for working the machine, and this force is sufficient for most stumps, but some of extraordinary size may require an additional horse, or instead of horses, a yoke of oxen. The average length of time required for pulling each stump, is said to be about five minutes. For further particulars, inquire of Wm. W. Willis, the proprietor of the patent, Orange, Mass.

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Suggestions.—Information Wanted.

Eds. Cultivator—The usefulness of your paper, which no farmer who has read it for one year can deny, consists in a great measure in the facilities which it affords for the interchange of knowledge on subjects pertaining to agriculture. It is a field in which conflicting opinions can meet and receive judgment, and each volume is stored with a rich fund of experience, which is really invaluable to the young and inquiring farmer.

But it should not be forgotten that a large proportion of the supporters of the Cultivator, those with whom it is the most important to get the "worth of their money," are working farmers,—not proprietors merely, but men who cultivate their own land, milk their own cows, chop their own wood—men, in short, who do not rely upon the labor of others for their support. This class value an agricultural paper less for its theoretical speculations, or its fancy designs for houses and grounds, than for the published experience of practical and laboring men like themselves—the minute detail of experiments and farm management; the description of farm implements, and in short, everything which can interest a man who performs his work with his own hands, and who is, therefore, grateful for any suggestions which will lessen his toil, or increase its reward.

The Cultivator is not deficient in such information, but considering the extent of its circulation, and the number of its correspondents, it might have much more.

There are many points connected with agriculture, upon which I have never seen published essays, and the discussion of which, by competent persons, would be interesting and instructive to many of your readers. For instance, I have rarely seen anything in The Cultivator throwing light upon the subject of clearing and managing new lands, though its circulation extends throughout the western states, where thousands are now toiling in the midst of all the difficulties and privations of a pioneer life. There are many now in your state, known as "early settlers," who in their youth encountered and overcame all these obstacles, and who might now devote a little of that leisure which their successful labor has secured to them, in communicating knowledge,—much of which was gained, no doubt, by many a sad experience—and thus render the same road less rugged to others. Such information, to be really useful and acceptable to the class for which it is written, should embrace the minutest details.

The difficulties and privations which surround the pioneer, especially when he is wanting in capital, and his position is isolated, are far from trifling. The most accurate calculation, and the closest economy of his means, are necessary; and the back-woodsman will often display a degree of calculating management, and an intellectual energy, far superior, as I think, to the most cunning efforts of statesmanship, which the world is accustomed to admire so much, for his object is a nobler and more stimulating one; it involves the welfare of a family which depend upon his toil, physical and mental, for its existence.

Permit me to suggest one other subject, out of several that occur to me, an essay upon which would be very useful and interesting to the inexperienced farmer, but more especially to the green back-woods man.

To the working farmer, who constructs and repairs his own implements, puts up his own buildings, and whose ingenuity in these little matters is often severely taxed, an essay, by a competent person, upon timber and its uses, would be of great assistance. It should particularize the uses for which each kind of timber is best adapted. Our forests furnish an abundance of material, but in the selection for any particular purpose, a nice discrimination is often important. Timber that may be the *best* for one purpose, is perhaps worthless for another; white-oak will make a good plow beam, but for an axe-helve another kind of timber is necessary. Some wood is harder, some tougher, some more elastic than others; and information from a competent source upon these points, embracing the different properties, qualities, and uses of timber, would be very interesting and valuable to all those who have not had time to arrive at such knowledge by the tedious and crooked road of experience, and who are compelled to rely upon mere conjecture or hearsay.

Do not suppose that these remarks are intended as a criticism on the manner in which The Cultivator is conducted. I, for one, have derived from it too much profit and instruction to find fault with it. But though I regard the publication as most useful and valuable, I would be glad to see it become even more so, by enriching its pages with as great a share of information designed to assist and lighten the toil of the laborer, as that which is intended to increase the profits of the rich proprietor. W. H. C. *St. Clair, Mich.*

P. S. Moss on Grass-land.—I would like to get through The Cultivator, some information with regard to the cause of the growth of moss on new ground, and the best mode of getting rid of it, if there is any short of plowing. I have ten acres of sloping river bank, intended for pasture, of very uneven surface, with a thin grove of forest trees upon it, on which moss is springing up in extensive patches. Plowing would be impracticable, and even harrowing would be a difficult and necessarily imperfect operation upon such a surface. Is the shade of trees the cause, or will the grass eventually come in if it is let alone? Perhaps an answer to this, from some "one who knows," may instruct others as well as myself.

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Drag-Roller.

Eds. Cultivator—Believing that stable manure may be increased in value five-fold over and above its worth as commonly applied, *by thoroughly intermixing it with the soil*, and knowing that soils by pulverizing, acquire a great increase of power to attract moisture from the atmosphere,—I have been using a DRAG-ROLLER.[*] It is an implement of which I had read, and about which I had written, but which I never saw until we constructed one this spring. Its operation has been very satisfactory.

Having to cultivate some land for beets and corn which had been left in bad condition, we applied barn-yard manure, plowed it in, harrowed it well, and then applied the drag-roller. The effect was most extraordinary. When the clods had disappeared, the ground was plowed *again*, and the harrow drew up more clods to the surface, which were crushed in succession by the drag. The condition of one piece, containing about half an acre was most unpromising, being almost an entire mass of clods, yet in less than a day it was reduced to a fine tilth. The manure was so completely incorporated that but few persons would suspect that a heavy coat had been applied.

When my hired man came from the corn-field, where he had commenced hoeing, I inquired in regard to his progress. "I never hoed such mellow ground before," was his answer. We think the roots of the corn and beets, which can now pass in any direction freely and unobstructed, will present a fair account next fall. D. T. *Greatfield*, 7 *mo.* 8, 1851.

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Hereford Cattle.

Eds. Cultivator—I did not intend to have said anything more in favor of the Hereford cattle, as I had made up my mind to let them take their chance until their *real value* should be *proved*. But as certain individuals are continually boasting of particular tribes of Short-horns, I am anxious to see the Herefords brought into fair competition with them. I think the New-York State Agricultural Society ought to do something to bring the different breeds to a *fair trial*. I am ready to "stand a brush" with any breed, and in any way the society shall point out. All I ask is "a fair field and no favor." My idea is that some of each breed should be placed in the hands of an honest, disinterested person, to try the experiment, and that the Society should pay the expenses. An accurate account should be kept of the weight and kind of food consumed; the beef, butter, or other products should also be weighed and disposed of, and the cattle which yield the greatest return for the cost of food, shall be deemed best.

I hope the Executive Committee will take this matter into consideration, and propose an honest trial. Wm. H. Sotham. *Black-Rock, N. Y.*

P. S. I send you the following extract from a letter I have lately received from a gentleman who has had some experience with Herefords. W. H. S.

Dear Sir—Having for a number of years taken a deep interest in Hereford cattle, and knowing that the country is mainly indebted to you for their importation, and knowing that you have had to stand up almost alone in their defence against the Short-horns, I take the liberty to write you in relation to them.

I am owner of a few Herefords which were descended from those you sold Mr. Luther Bingham. They have worked themselves into general favor among the Green Mountains. It is acknowledged that they are the cattle for this climate and section. A car load of two-year-old steers, (half-bloods) was sent to Brighton last winter, and though they had only been fed in the ordinary way, they brought $40 per head. They astonished the Boston butchers.

We hope you will not withdraw from the field, but will continue to plead the cause of the Herefords. The world will one day award the praise your efforts merit. Yours truly, John Gregory. *Northfield, Vt.*

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[*] The *drag-roller* was invented by Thomas B. Gay, of Virginia. It resembles a roller without rolling, and only drags, grinding the clods to powder. Mine was formed of a hollow log about three feet in diameter; and two pieces of scantling passing through and bolted behind, admitted between them the tongue of the wagon. I think however, that one constructed of plank would be better, as it would strike both large and small clods *at the same angle*—would require less draft—admit of being heavier, and of course more effectual. It would also be less liable to *choke* to which ours was subject, if the ground had been recently moistened by rain.

Cultivation by Steam.

The subject of tilling the land by steam, has been earnestly talked of for several years, and some attempts to carry out the idea have been made in England. These attempts have generally been directed to the operation of plowing, either by a locomotive or a stationary engine. Various impediments have thus far prevented the proper performance of the work by either of these modes. Recently, the substitution of the *spade* for the plow, has been suggested, and a machine designed for *digging* the soil has been exhibited at the Crystal Palace. We have seen no account of the machine having been tried, and know nothing of its principle of action, except that the motion is described as *circular*—the spades being set in a wheel.

The discussion of the question of the use of steam for the purpose above mentioned, has brought out some valuable ideas, some of which may at least afford a clew that may ultimately lead to more or less success. We have been much interested in an able article on this subject, published in the *Agricultural Gazette*, from which we make the following extracts. In relation to the question whether the plow or the spade shall be the implement adopted, the writer says:

> It is not plowing, neither is it digging that we want. These are only *means*. What we want is the *end*: we care not for the process. Give us a *seed-bed*: show us the soil *comminuted*, *aerated*, and *inverted* six or eight inches deep, and we will not ask you *how it came so*.
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> But if it is not plowing, and it is not digging, what is it? "Go to the mole, though dullard," (the old proverb might be travestied,) consider her *ways* and be wise—who, without any coulter, share or mould-board, without spade, hoe or pick-axe, leaves behind her in her rapid track, a finer mould than ever spade or rake produced, or the most careful-handed gardener ever used to pot his plants with. The very rabbit that scratches his hole in the ground, or the fox that scratches after him, or the dog that scratches after both—the whole tribe of 'claw-foot,' in fact—had scratched hard earth into soft mould, before ever the plow or the spade, or even the more ancient hoe, had broken ground on this planet.
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> Let us begin from the beginning: let us take cultivation itself into thought for a serious moment, and analyze it into its simplest elements, dropping all conventionalities of plodding custom. What is it? How would you do it, if you had neither plow, nor spade, nor hoe, nor rake, to help you? Surely with the same tools that the Monks of La Trappe used, to dig their graves, and in like manner? If the mole, the rabbit, the fox, the dog, are not sufficient indications, take the hand of man, glove it with hardened steel, multiply it a dozen or twenty times, till you have an instrument as broad as Crosskill's clod-crusher, each hand or claw with its separate arm, forming the radius from a central shaft, which bristles all around with a forest of such arms, a sort of revolving Briareus, *not rolling*—let that be especially remembered—but steam-driven, a thousand *dog*-power if you please, for we must not even mention horses, or we shall drop back into the old Scylla and Charybdis of 'traction' and of 'rolling', two ideas to be eschewed like poison.
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> Let us suppose the picture of this formidable looking cylinder and claws to be sufficiently described, for the moment reminding one at a distant view, of a half-breed between a hay-tedding machine and a Crosskill's clod-crusher—but unlike them, fundamentally distinct from any and every instrument that was ever seen a-field, as doing its work not by traction, not by its rolling weight, but *driven* by its axis, as the steam-paddle, the circular saw, the driving-wheel of the locomotive, are driven, supported by its own apparatus, and abrading the soil with its armed teeth, first cutting its own trench, burying itself to the required depth, and then commencing its onward task, *tearing down the bank*, (so to speak,) on the advancing side, canting back the abraded soil, earths' *saw-dust*, 'comminuted, aereated, *inverted*,' into the trench it leaves behind.

Salt as Food for Plants.

Professor Way, chemist to the Royal Agricultural Society, in a lecture on this subject, stated, as a conclusion to which his investigations had led him, that common salt was neither directly nor indirectly, a constituent of the food of plants. He stated, however, as his belief that salt did, in some instances, produce an action beneficial to vegetation, on some soils. He had not carried out his investigations to such an extent as to say, positively, to what this effect is attributable, but he was "led to believe that the common salt acted on certain silicates of lime present, in a way as yet not understood; and at the same time as it afforded a supply of lime to plants, gave rise, probably, to a modification of silica, important to the straw of the cereals."

In reference to Prof. Way's remarks, other members of the society gave the results of their experience in the application of salt to land. Col. Challoner said he did not consider it acted simply as a manure on grain crops, "but it stiffened and brightened the straw, and caused it to ripen from 3 to 5 days earlier than it would otherwise have done." Mr. Barrow has found salt improve the strength and quality of his wheat straw, his neighbors' crops having been laid while his stood well. Mr. Mechi said —"without being able to give the scientific reason, salt gave strength and brightness to the wheat straw and prevented its lodging." He applied it at the rate of 3 cwt. per acre, mixed with the same weight of guano."

Virginia Lands.

Eds. Cultivator—I have received vast numbers of letters from every section of the country, from Maine to Illinois, making inquiries as to prices of lands in Eastern Virginia, quantity of crops, state of society, schools, and health of the country. I will state that any quantitity of land can be bought within from 15 to 30 miles of the principal cities in the state, at from $8 to $10 per acre, according to improvements. Small farms of 100 acres or thereabouts, except in the immediate neighborhood of cities, cannot be bought for less than $20 to $100 per acre. As a general thing, the plantations range from 250 to 2000 acres, or more. Many want a small farm in the neighborhood of a pleasant country village. Such things are not often found. Our county seats often have no other buildings than the county offices and a hotel. For health, the country from about the head of tide water, to the Blue Ridge, is unsurpassed; it is generally well watered, with never failing springs of the purest water. Tobacco is the principal crop, to which all else must give way. The wheat crop will, perhaps, on the whole, fall short of 10 bushels per acre, although 20 or 25 are not uncommon, depending on the culture. The application of 150 or 200 pounds of guano per acre, will, on the poorest land, give 12 to 15 bushels per acre, and with a little extra aid will produce clover, which, when once seeded, is always seeded. Corn is the principal grain crop. Oats are largely raised, but this year, owing to an unexampled drouth, will produce little more than half a crop, except where guanoed. Wheat is excellent. Cotton is raised by most planters sufficient for home consumption. But little hay is raised, though there might be any amount. No pains are taken to make manure. The pastures are old fields and woods. Sheep are seldom fed summer or winter; but a few turneps, or the like, would probably not injure them, and they can be raised in any amount. The soil is generally a few inches sand; sub-soil clay. No land retains manure better, or shows a more lastingeffect from it. The usual team for plowing is one horse or mule, the plow going to the depth of about three inches. The lands may be one-third in natural growth—oak, hickory, pine, poplar, &c.; one-third in cultivation; balance turned out and grown up, in many instances, with a heavy growth of pine—the second growth is invariably pine—many trees two feet through. Many farmers, however, are improving their lands by aid of lime, guano, deep plowing, clovering, &c.

For fruits, we have every variety—apples, peaches, plums, quinces, cherries of every variety, grapes, figs, &c. Of the smaller fruits, we have whortleberries, the bushes of some of which grow 15 feet high, black berries nearly as high. Strawberries and cherries ripen in May; apples, from June to March; peaches, July to September; melons at the same time. For apples, the Albemarle Pippin is unsurpassed. You have no pippin at the north like it. It keeps late in spring.* Schools are scarce; churches generally convenient—Methodists, Baptists, and Presbyterians.

Many inquire whether it is not considered disreputable for a white man to labor. It is almost too foolish a question to answer; but I will say it is not, nor for a woman to labor. I know many places where the timber would more than pay for the land, and I will say, I know of no lands on which a flock of sheep would not more than pay double interest. Ewes drop their lambs early in January or December, consequently are early in market, and can be sent by steamers to New-York or Philadelphia, in 36 hours.

I would recommend, as a general thing, no individual farmers to purchase singly, but to buy several plantations, and settle 40 or 50 families in the neighborhood. If any one chooses to write me at Proctor's Creek, Chesterficd county, I will answer, if I can find time. S. Clarke, Jr.

P. S. I would say that I have received several communications, saying that land warrants,—purporting to be issued from the land office in Richmond, authorizing the surveyors of different counties to locate such warrants on any unappropried lands belonging to the state,—are offered by agents at one dollar per acre. It is not a swindle, exactly, but if any one wants such warrants, I will furnish such for $20 per 100 acres. The state owns large quantities of lands in Western Virginia, and it is very possible valuable locations may be found. Editors generally, might confer a favor by cautioning the public against paying any large amount for such warrants.

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* We received some specimens of this apple a few years since, and thought it remarkably fine. Eds.

American Plows in the Great Exhibition.

Exhibition Buildings,
Hyde Park, July 21st, 1851.

Eds. Cultivator—After a vast deal of trouble, we have succeeded in having the foreign plows tried. On Saturday last we had the trial at Hounslow, about ten miles from the town. This was once the celebrated Hounslow Heath, where robberies were so common that no man dare pass over it without guard and arms—and with these he often was despoiled of his money, and frequently forfeited his life also. Now it is occupied by farmers, gardeners, and village residents, and is a place of attraction. To this place, from the town, it is one continuous succession of market gardens, and although the soil is naturally light, yet, by superior manuring, and cultivation, it produces a great number of crops in the season, and pays rents from $40 to $100 per acre, I am told.

The ground selected for the trial of plows was on a clover ley, only one year old, and as it was very dry, the soil clay, mixed somewhat with gravel, it was difficult to turn a fair furrow. The depth required was six inches, the width nine inches. We had entered, American, French, Bohemian, Belgian, Austrian, Dutch from Holland, Canadian, and the three English plows which took the prizes here in April last, and Ransom's plow, which we had at our trial in June, 1850. We were to have had them tested by the Dynamometer, which we insisted upon as a part of the trial, but to which the English judges demurred, as they do not pretend to try their plows by any test of draught. A very heavy rain, however, falling just as we had finished trying the plows, we were unable to test them with the Dynamometer, and have agreed to try those to which medals have been awarded, with the English prize plows, on Thursday next. We have a newly invented Dynamometer from France, by which the test is to be made. I am unable to give you a description of it, but will, after trial, endeavor to give you some idea of it. An English Dynamometer, working in oil, was upon the ground, which is a new one, and I think will work well.

We commenced the trial of plows under all the disadvantages of taking them out of the exhibition without the opportunity of scouring off the paint, with an English plowman most of the time, who had never held an American plow, and with all the prejudice on the part of most persons present, that you can imagine. When we brought up the first plow of ours for trial, Starbuck's No. 6, I heard from a number of Englishmen around—"that plow *can't do it, it will break*," and expressions like that,—but when the horses started, and the plow went through, and on its return, when the English plowman said *it held easy*, and the horses showed that their work was light, the tide suddenly ebbed. We were not able to adjust Starbuck's plow to turn nine inches wide—ten inches was the least we could do with it. We tried Prouty's No. 40, next, and that we adjusted perfectly to the rules, and when we had finished with that, the matter was settled that American plows could do the work. While we were trying them, an English gentlemen living adjoining the land we were plowing, who had seen me as soon as I arrived on the ground, asked the privilege of trying our plows *with one horse*, and took one of the plows to try it. I had one of Starbuck's No. 2, plows, with a coulter on the share, and he took that to another part of the field, and with one of his big horses, plowed with perfect ease, *six inches deep* and *nine inches wide*, without any extra effort of his horse. He gathered around him, as you may well imagine, a large crowd, and the wonder expressed was very amusing, The result of this was, that the gentleman ordered *this plow* on the spot, and before I left, gave the names of four others in the neighborhood, who were present, for the plows to be ordered for them. This gentleman said, after he had tried the plow, "I do not mind what the judges may say about the plow, it *is the one for me.*" Had I with me fifty of Starbuck's plows, of medium sizes, I could have sold them to farmers before this.

We had four American plows tried—Starbuck's No. 6, Prouty's No. 40, A. B. Allen & Co.'s No. 20, and a Philadelphia cast-steel plow. The judges decided that they would award only one medal to each foreign nation. I endeavored to procure two, but as some of the nations had only one plow, and as the general rule had been adopted in some other cases, they would not change it. The medal was awarded unanimously, to Prouty's No. 40. Starbuck's No. 6, did equally good work, except that the furrow-slice was too wide. Taking into consideration all the embarrassments under which we labored, we are satisfied with the result. We have proved that what the London Times has said of our plows is utterly untrue—"that they are behind the age." I have an order from an English plow-maker, for one of Starbuck's plows for his own farm! and I have no doubt when he receives it, it will be multiplied for the benefit of others. He desired to take the one we had tried to-day, but as that was disposed of, he must wait, with others, until they can be forwarded.

We had at the trial to-day, some first-rate farmers from *the Tweed*, who are friends of Mr. Thomas Bell, and who were with him; and who expressed themselves greatly pleased with our implements. One of them, by-the-by, was present at the speech of Prof. J. before the *Berwick Club*—of which we had the account sent us. He says, that the report of the speech, so far as it went, in regard to our country *was true*, but that much more that was disparaging to us, was said—and that although he had never himself been in the country, he was satisfied that it was entirely over-drawn, and designed for a free-trade market here, and he so expressed himself to his friends on the spot. I have found, in traveling through Northumberland and Cumberland, among the farmers everywhere, attention to this speech and the "Notes," and I have taken the liberty to say, on every occasion, that Prof. J. could have written *a much better book*, if he had *known more about our country*. I directed their attention to a sample of wheat on exhibition at the Crystal Palace, from a portion of the wheat district which he said was being laid down to grass, because it was exhausted,—the whole field from which it was taken yielding 63¼ bushels to the acre! This was a sample of Mr. Hotchkiss' wheat, from Lewiston, Niagara county, which received the first premium last winter at our annual meeting. I sent with the samples, the proofs which were presented to our judges—and there is not in the exhibition, anything that compares with it as to the amount raised per acre, and I have reason to believe that the judges who have passed upon it, will thus notice it in their report. I have also referred gentlemen, when they have mentioned this to me, to a single fact, which would show them at once, how fallacious these statements were—the quantity of wheat and flour exported to this country, (England,) during the last six months, taken from a Liverpool paper, being nearly double that of the year when Prof. J. was in our country.

I have made a very pleasant tour with Prof. J. in Durham, Northumberland, and Cumberland counties, where I visited a number of tenant farmers of the very best kind, who are making money, notwithstanding the depression of the times and high rents. I intend, whenever I may have time, to write out what I have seen and learned, and I think I can show our farmers how English farmers are enabled to live, with the great rents they are, in most parts of the country, still obliged to pay, notwithstanding the deductions that are made. The three great principles that a good farmer here relies upon, are these: 1st. *Thorough draining*; 2d. *High manuring*, with guano or other prepared manures, in addition to barn-yard manure, if required; 3d. *Thorough cleaning* of the crop, so that the grain or other crop shall *have all the nutriment* to perfect it, instead of leav-the greater share, (as is too often the case with us,) to support the weeds.

I became acquainted at our trial of plows, with Count de Gourcy, a distinguished French Gentleman, who is one of the most intelligent agriculturists that I ever met with. He has written several works on the subject of agriculture—his Travels in Scotland and England, you will find in our Library. He was formerly a practical farmer himself, on a farm of 500 acres, on which he introduced the best system of husbandry from England and Belgium, and he was subsequently connected for a considerable time, with the army of France. He has, for a number of years, devoted himself in the summer season, to visiting the different countries in Europe, passing months in the farming districts, examining minutely and carefully into the systems and practice which prevail, and taking notes of their stock, dairies, &c., and in winter, he copies his notes, and publishes them for the benefit of the farmers of France.

He spoke in very high terms of our plows. He had seen three of them in operation in France, which had been sent over by some American gentleman who had purchased Rambouillet sheep; but his name he did not recollect. They were, he said, so light, so simple in their counstruction, so easily operated by the peasantry of France, and so cheap, that he preferred them altogether to any other plows. He expressed himself highly gratified with the performance of our plows at the trial—said they had accomplished all that was desired.

He mentioned to me a very remarkable circumstance in the breeding of cattle, which seems, at least as far as tried, to have been successful. This was, the method by which a breeder can secure bull or heifer calves as he may desire. He said, if the cow is milked clean when she receives the bull, the produce will be a bull calf—if she receives the bull with a full udder, the produce will be a heifer calf. A farmer in France, whom he named, put seven cows, with their udders thoroughly deprived of milk, and the produce was five bull calves—two havfailed to produce any. I understood several other instances within his own observation, had uniformly resulted in the same manner. This is importnnt, and certainly worthy of a trial. Whether anything of the kind has ever been observed in our country, I do not know. He says that the work of Guenon is universally credited in France, and that they are so particular with their dairy stock, that they use no male which has not the desired escutcheons. I went through one class of the cows and heifers at Windsor, with two intelligent French gentlemen, who came over by order of the government, I believe, and they did not pass a single animal without carefully examining the developments as suggested by Guenon. I believe the rule holds good, that those cows which are so marked, are uniformly fair milkers, although many excellent milkers do not have these marks. The Frenchmen say, however, that it is all important in the selection of heifers which have not had a calf, as you may, with reasonable certainty, select a fair milker. I find many Englishmen who have paid attention to the subject, and they came to the opinion above expressed.

I omitted in my last letter to say that the first prize Short-horn bull is said to have been sold for 500 *guineas*, to the Belgian government. Although he was a fine bull, I think the money could have been much better expended on the show grounds. Yours. B. P. JOHNSON.

The Science of Unimproved Farming.

ANALYTICAL LABORATORY, YALE COLLEGE, *New-Haven, Conn., July* 29, 1851.

MESSRS. EDITORS—It seems to me that we need a little change in our modes of arguing upon agricultural subjects. We have been accustomed to argue upon the necessity of improvement—have been endeavoring to convince the mass of farmers that they may better their practice in a variety of ways, and have given them what we consider incontrovertible proofs upon the subject, yet all, in many cases, without avail. They say that scientific farming is nothing more or less than an imposition upon the more gullible part of community; that scientific men know nothing of practical subjects, and that the poorest of all ways to make boys farmers, is to set them at studying the subject of their future profession in any other manner than following the plow, or swinging the scythe.

Let us then take up this view of the subject, and see what can be made out of it. The science of improved farming has met with its advocates, and numbers many followers; why should not the purely practical and letalone system, have something publicly said in its favor? If it is really the true system, it ought to bear the test of printing as well as any other, unless it be that the very act of printing destroys all truth. The fact is, that the farmers want information, and are determined to have it from some quarter. If, as many of them say, the present book farming is all wrong, let us have something that is satisfactory.

One of the first points, and a highly cardinal one in the estimation of many excellent practial men, is that a young farmer, or a boy preparing to become a farmer, must carefully avoid anything like an extended course of study. Such a course is all very well for those who are to be professional men—they need it, and are benefitted by it. By such study they learn what has been done in their profession by others, they learn what remains to be done, and what is doing; they are thus enabled to commence their active life with clear ideas of what is before them, and with a full knowledge of that which is essential to their ultimate success. Nothing of this sort is necessary to the young farmer. If he is allowed to study anything relative to his profession, it will be the ruin of him as a practical man. A tolerable education in the district schools or academies, embracing the common English branches, is all that he can safely bear; anything farther than this will make him an improving farmer, which is closely connected with his becoming somewhat scientific. The unimproved farmer meditates deeply upon the curious fact, that in proportion as men are educated, so are they more likely to be filled with what he calls wrong notions, to commence trying experiments, and to advocate the reading of books.

Some persons might draw from this fact, conclusions favorable to the effect of knowledge upon the agricultural mind, especially as the results obtained by these reading farmers are frequently of the most satisfactory kind; not so, however, with our friend; he decides that the only way to prevent his boys from imbibing any of these ruinous modern fancies, is to confine them at home, to take them out of school at an early age, and to keep them hard at work on his farm. Thus they learn what work really is; they become used to it in every department, and by the time they are twenty, are able, perhaps, to lead off the hired men with the scythe, hoe, or cradle, to guide the plow or wield the axe, with any others in the country. This now, he says, is an education worth having; here is a boy who is able to take care of himself under any circumstances; he knows all of farming that is needful to be known, as much as his father or grandfather knew before him, and will pursue the good old track quietly, frowning down all innovations, for the very reason that they are novelties.

The farm, under his management, will run down gradually it is true, but that it has been doing steadily for the last twenty years; land is not as good as it used to be; but if it gives out entirely there is plenty more at the west, so that that difficulty can be overcome without any help from books. He is in fact a specimen of a farmer whose only literary education has been of a nature wholly unconnected with his business in life, whose practical education has been just that of the hired day laborers whose work he directs; he has had no advantages apart from those afforded by intercourse with his neighbors, whose experience is just that of his own father over again. These then, must be considered the fair results of a purely practical education. Are the farmers of our country content to be represented as such a class?

Whether content or not, this must be the most appropriate description of them, unless they depart from the strict line of their practical course. A young man cannot go into other districts to study farming under the best farmers without getting indirectly at least, the results of greater knowledge and science. This is a lamentable state of things, but it nevertheless exists. The men who in all parts of the country stand pre-eminent for their good crops, for their fine stock, and for their admirable management, are precisely the men who are most ready to acknowledge their obligations to science, and who have the most frequent recource to books for assistance and advice in every operation. This is a most unfortunate obstacle, but nevertheless one that actually exists; it is unfortunate because it ties the unimproved, entirely practical farmer, down to a narrow field. By condemning study he condemns all the results of study, unless he means to adopt the results of others' researches in an underhanded way; he cannot, of course, do this consistently, for if he once acknowledges that any one by study can make improvements in farming, it follows that he himself might also do something in the same way, and so this whole system of purely practical education falls to the ground. The unimproved system, then, not only shuts out books and study, but the results which others derive from them; this is obviously the only consistent course. If carried out entirely and fully, the advocates of the letting alone system would have occasion to rejoice in the sudden suspension of all progress that would ensue. They would be forever freed from all the urgent solicitors who beg that they will subsoil, drain, and clear their land, who desperately force upon them their prescriptions for concentrated and special manures, and who back their recommendations with facts and figures that are occasionally of a most stubborn character. The young farmers would be left to grow up in utter ignorance of the word improvement, and would scarcely possess more ideas than the team that they drive, as to the practicability of making any useful change in the old customs to which they had been trained.

Without books, without study, without lectures, the knowledge of any little advance which might occur here and there, would be as slowly diffused as it formerly was among the aboriginal inhabitants, and centuries hence would see our agriculture scarcely any better than now. This is no exaggeration; if we could blot out all of the works on agriculture, all of the periodicals, and stop all lectures on the scientific bearings of this subject, advance would be checked at once and forever, or at least for as long a time as such system should prevail.

While those who engage in other pursuits would be constantly improving, constantly discovering new means of successful and economical application of their labor, the farmers would remain at a stand, and would serve as an abiding representation of long passed ages.

Such is the fairest statement that I can make for the unimproved farmer; such I consider the legitimate carrying out of his principles; it is under such principles that we constantly hear book-farming decried, that we hear science spoken of sneeringly and contemptuously, that every proposition involving a change is looked upon, not as deserving investigation, but as a legitimate and natural object of suspicion. It is under the influence of such principles that so much of the fairest and most fertile portion of our country has been worn out and exhausted by cultivation, and that so much more is deteriorating still from year to year.

If a proposition for some appropriation to aid in the dissemination of knowledge, or the spread of scientific principles, among agriculturists, is brought forward in any of our legislatures, or other public bodies, it is, as a general rule, rejected or passed over, and often with contempt. Who, now, are the men that thus retard all progress and hang as a dead weight upon every effort? They are not lawyers, physicians or merchants; these are generally men of more enlarged views, who readily see the true bearings of such movements; they are in almost every case the *unimproved* farmers. These are the men who have remained asleep while the rest of the world has been moving on, who have been selected by agricultural communities to express their will, and who as the exponents of that will crush every forward movement.

If a speaker addresses a popular assemblage, in support of radical changes in the present system of exhausting culture, too generally pursued, it will not be the professional men who will dissent from his views, but the very men who would be benefitted by the change, and improved in their condition. Thus it is everywhere, the obstacles to improvement exist among the farmers themselves, and until they will move far more unitedly than they ever have done, its advance must still be slow.

I have endeavored to show what a system of unimproved farming would be if carried out in its fullest extent, and it may serve to convince all, that books and study of some kind are necessary. Those who feel that the present position of agriculture is not what it should be, must unite in bringing about a change. If the works now existing are not sufficient, if the systems of instruction proposed are not satisfactory, let the objectors exert themselves and produce better, but in the mean time, let all with one voice join to condemn the practice of the unimproved farmer, and to arouse him from his slumbers. Yours truly, JOHN P. NORTON.

Importation of French and German Merino Sheep.

EDS. CULTIVATOR—GEORGE CAMPBELL, Esq., of West-Westminster, Vt., in May last, returned from a tour through France, Germany, and Spain, bringing with him an importation of French Merino and German Merino sheep. William Chamberlain, Esq., of the firm of Chamberlain & Phelps, New-York city, is associated with Mr. Campbell in this enterprise. Receiving a polite invitation from Mr. Campbell to visit him and examine his sheep, and to be present at their shearing, I embraced the same, and received much pleasure from my excursion.

Mr. Campbell found no sheep in Spain which were, in his judgment, worth importing to this country. He says the flocks of sheep which formerly so highly distinguished that country, have melted away and become sadly degenerated by bad management. After a thorough inspection of the best flocks in the three countries, Mr. Campbell purchased about 100 sheep of Messrs. Gilbert and Cughnot, whose flocks are from the celebrated government flock of France, at Rambouillet, about 40 miles from Paris. This flock is descended from the importation of Spanish Merinos made by the French government in the year 1786. In "The American Shepherd," I find the following extract from a report concerning this flock, by M. Gilbert. He says—

"The stock from which the flock of Rambouillet was derived, was composed of individuals beautiful beyond any that had ever before been brought from Spain: but having been chosen from a great number of flocks, in different parts of the kingdom, they were distinguished by very striking local differences, which formed a medley disagreeable to the eye, but immaterial as it affected their quality; these characteristic differences have been melted into each other, by their successive alliances, and from them have resulted a race which perhaps resemble none of those which compose the primitive stock, but which certainly does not yield in any circumstances to the most beautiful in point of size, form, and strength; or in the fineness, length, softness, strength, and abundance of the fleece."

Again in the same work, I find it stated of the flock that,

"The fibre of the wool is very fine, quite equal to the best Merino in Spain, and is the very antipodes of that of which so much complaint is made by the manufacturer, of being harsh, dry, crispy, and wiry. The fleece opens of a brilliant creamy color within, on a skin of rich pink, and is soft, glossy, wavy and very even over the whole body; is exceedingly close and compact, and has a yolk free from gum, and easily liberated when it comes to be washed, but which protects the wool from the weather, and keeps it free from the dead ends that are so objectionable. It becomes of the purest white when scoured by the manufacturer, and still retains its mellow, oily touch, so grateful to the handling of good judges. Its felting properties are beyond dispute, making it a choice material for the manufacture of fine cloths."

After a close inspection of Mr. Campbell's importation, I am led to think that all I have ever read respecting the French Merinos, is very just. They appear to be possessed of constitutions as hardy and vigorous as those of our best native or coarse wool sheep; they are very square, finely shaped sheep, and by far the largest pure merino's I have ever seen,—indeed I have rarely seen larger sheep of any kind. Generally, they have heavy dewlaps, and large folds of skin on the neck, reaching back on the shoulders, and often nearly over the body, the wool growing thickly over them, and covering the head, and the legs clear down to the hoofs, so that the fleece, when shorn, spreads out into dimensions equal to a covering for two such carcases. The fleece is very thick and heavy, and fine enough for any body. I cannot but regard these sheep as a most valuable acquisition to our state, and am induced to believe them very valuable, among other things, for crossing with our best mutton sheep, thus refining the fleece of the latter, without deteriorating the carcase.

I will cite a few examples from minutes taken at the shearing, which are a fair average of the entire importation:

	Live weight.	Weight of fleece.	
No. 2,	85 lbs.,	11 lbs.	8 oz.
5,	89	13	
10,	120	12	
17,	105	14	12
20,	106	15	
26,	122	13	
34,	103	15	
30,	107	14	14
48,	97	14	
50,	92	15	
56,	74	16	
61,	109	14	

A buck 2½ years old, whose live weight was 224 lbs., sheared 21¾ lbs. It is proper to say that the wool was unwashed, and as clean unwashed wool as is ever seen; that the sheep are mostly yearlings, with one year's growth of wool; and that the fleeces had all sustained quite a loss on shipboard, from the wool being rubbed off and picked out, and eaten by the sheep,—a habit which I am told they are apt to acquire, when confined long at sea.

Mr. Campbell inspected several flocks of fine wool sheep while in Germany, but found them to be mostly Saxony, with very small carcases, and very short light fleeces. In Silesia, however, he found a flock descended from an importation of Spanish Merinos made in 1811, which have been bred with great care and purity. In size they compare well with the best Paular Merino's in the state of Vermont, but have a thicker, heavier, and finer fleece than our best sheep. For fineness, their wool will compare well with the finest Saxon. They have square, finely shaped bodies, and appear to possess hardiness and vigor of constitution. I again select from my minutes several samples, which will give a fair average of the shearing of the whole.

GERMAN MERINO BUCKS.

	Live weight.	Weight of fleece	
No. 18,	83 lbs.,	7 lbs.	6 oz.
76,	86	7	5
80,	99	8	8
13,	91	10	8

GERMAN MERINO EWES.

	Live weight.	Weight of fleece	
No. 4,	61	7	14
10,	71	9	13
15,	80	9	0
17,	75	9	8
10,	69	7	15

Both bucks and ewes of this stock are yearlings, with fleeces of 10 months growth, unwashed.

Mr. Campbell intends to exhibit several of his imported sheep, of both breeds, at our State Fair, the 9th and 10th of September next. Any information in regard to these two importations which may be desired, may be obtained by addressing Mr. Campbell, or Chamberlain and Phelps, 108 Front street, New-York city, or William Chamberlain, Esq., Red Hook, Dutchess Co., N Y. F. Holbrook. *Brattleboro,' Vt., Aug.* 1, 1851.

Cultivation of Cranberries.

Eds. Cultivator—Please accept a vase of Cranberry plants, of the variety known as the "Upland Bell Cranberry." Wishing to test the plants thoroughly, on the 1st day of June 1851, I removed a bed of these plants from rich upland soil into the poorest kind of loam—both soils being near Lansingburgh, and 100 feet above the Hudson—no swamp, muck, or brook in the vicinity. They were watered but once, which was at the time of setting. The plants were just budding at the time. Wishing to send you a specimen, I have taken them up while in bloom, and I think with but little care they will do well. It would be advisable to water them occasionally, the same as other plants. The new shoots of each year furnish the fruit which are of extra size and flavor. The plants the first year, yield but half the usual crop, after transplanting. I shall be able to send you this fall a vase of the plants in full growth and cultivation, with the fruit attached. Plants can be furnished in the fall, growing in pots with the fruit upon them, and fruit when protected from frost, will remain fresh upon the vines until they again blossom, thus forming a beautiful ornament for the window, garden or greenhouse.

The soil in the vase that I have sent you was taken up with the plants. The vines increase rapidly from runners, seeds and shoots, and will take root and throw up shoots wherever they touch the ground. This plant is easier cultivated than any fruit with which I am acquainted, and is perfectly adapted to almost every soil and location under good management. I also send you specimen plants of an early variety of the low bush cranberry which I took yesterday from a bog about 20 miles north of here. The blows were of a deep scarlet, and I should think the early buds extremely liable to be injured by late spring frosts. They are propogated differently from the bell variety, and the leaves presented the same shrivelled appearance while growing, that they do now after being taken up. The plants stand thick, scarcely any weeds or grass appearing among them, and cover, I should think, about two acres. I was informed by persons in the vicinity that the fruit is not large but of good quality. These vines were the largest *specimens that I could find after diligent search.* F. B. Fancher. *Lansingburgh, N. Y*

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Rambouillet Sheep.

The first fine wooled sheep that were allowed to go from Spain, were selected from the best royal flocks of that country, and presented by the King of Spain to the King of France. Since about the year 1787, these several flocks have been mixed and bred together, under the control of the government of France. The Minister of Agriculture is annually elected, and has the control of the flock. He resides in Paris; but the Director resides on the farm at Rambouillet, about forty miles from Paris. He keeps the books, and registers the birth, death, and sale of every animal; which is known by its respective number, which is told by more or less notches cut in the ears, and the rams have an additional number, or figures burned upon the side of the horns. This method of registering, gives the lineage back for more than fifty generations.

These sheep are well sheltered throughout the winter, and at night during the summer. The lambs are allowed to drop in the month of January. These, and no other flocks in France, are allowed to graze unless attended by a shepherd and his dogs. There are no fences in France. The sheep are allowed to feed along side, and close to fields of wheat and other grain. It is wonderful and quite amusing, to see dogs protect the grain, though the flock may be within reach of it.

At Rambouillet, the surplus sheep of the government flock are annually disposed of at public auction, which takes place on Sunday. This year it came off on the the 27th of April. There were no ewes sold; but fifty-one superior rams sold at a price averaging about $210. Fifty of them were fifteen months old, and their average live weight was 186 pounds, as registered upon the books.

These rams are never put up at a less price than 260 francs. If not taken by bidders, they are withdrawn, and afterwards disposed of at private sale. All of the rams were sold to go out of France; nine of them only, were bought by Americans. The balance went to Russia and Australia.

Upon looking over this splendid flock of about 400, and other superior flocks of Merinos, in different parts of France, it was a wonder to me that none had gone to England, and but a short time since none had found their way to America. Probably one-sixth of all the pure Merinos, of this enormous size and weight of fleece, have been purchased by Americans, and a majority of them within a year. These sheep are not only superior for their great production of wool, but they will eventually supersede the best English breeds for mutton. Solomon W. Jewett. *Weybridge, Vt., July* 8, 1851.

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Average Yield of Wheat in New-York.

We wish to correct a mistake contained in an editorial note in *The Journal of Agriculture.* It is laid down as a "fact," that "the average crop of wheat in the state of New-York, at this time, does not exceed 12½ bushels per acre." It is also stated in the same paragraph, that thirty years since this state averaged 30 bushels per acre, and that the state of Ohio at that time averaged 35 bushels per acre, and now produces but 15. We know not on what these statements are based, though we recollect having seen the following in Prof. Mapes' *Working Farmer*: "Such practical farmers have caused the wheat crops of New-York to fall from an average of 80 bushels per acre, to 12½ bushels, and of Ohio, from 85 bushels to 15."

The statistical returns of 1845, gave an average yield of the wheat crop for New-York, of 14 bushels per acre. This is the lowest average for which we have any data. It will be remembered that it was taken at a time when this crop, in a large portion of the state, was nearly destroyed by the "weevil," or wheat-midge. It was the injury done by this insect, and not the exhaustion of the phosphate of lime from the soil, (as stated in the note above mentioned,) which produced the deficiency.

We are inclined to think that a very general error has prevailed on this point. That many farmers have practiced an exhausting course of cropping is unquestionably true; but so far as regards the failure of the wheat crop in this state, we are confident that the *chief* cause has been the injury done by the insect referred to. We have numerous statements from farmers to this effect; that their wheat grew as well, and appeared as promising as ever, and that the only drawback to the yield was the shrinkage of the grain from the attack of the insect. This is supported also by the fact, that as the midge has decreased in numbers—which it has done greatly in the eastern part of the state, within the last few years—the crop has increased—the yield of the last two seasons having been equal to any ever realised here.

But what reason is there to believe that the average yield of this state ever amounted to 80 bushels per acre, or that of Ohio to 85 bushels? This statement seems altogether unsupported by evidence. As regards Western New-York, we have the testimony of the best wheat-growers, that the crop of that section has been heavier on the average, for the last six years, than it *ever* was previously. [See current vol. Cultivator, pp. 166, 167.]

Fashion makes foolish parents, invalids of children, and servants of all.

Trust him little who praises all, him least who is indifferent about all

ANSWERS TO INQUIRIES.

Yard for Fowls.—L. M. R., East-Plymouth. Common laths would probably be as cheap and convenient an article for this purpose as you could use. Set up stakes or posts, eight feet apart; nail on these, two strips of two inch plank, three inches wide—one strip a foot and the other four feet from the ground. Nail the laths on these, vertically, two inches apart. You can cover the top in a similar way.

Apples falling from Trees.—L. M. R. Apples fall from trees from various causes. It is usual for many more to *set*, than can be brought to perfection; nature, therefore, provides that the tree shall be relieved of its superfluous burden. Still it is not uncommon that more remain than can reach a full size, and become properly ripened. Fruit also drops prematurely from the attacks of insects. Apples are injured by the "Apple-worm," which is derived from an egg deposited by a moth. It eats into the apple, which causes it to perish. It is advisable that the apples which drop off, should be immediately disposed of in such a way as to destroy the worm which is generally in the apple at the time it falls. This may be done by feeding them to swine, or allowing swine to run in the orchard.

Composition for Roofs.—D. D. D., Ilion, N. Y. The article in our June number, contains all the information we can give on this subject. The article says the tar or pitch must be used *hot*, which, of course, implies that it must be heated, but we do not know whether it is necessary to *harden* it by boiling.

Sheltering Manure.—Answer to W. C. A., in our July number. Construct a shed, 30 by 15 feet, attached to a stable for 10 cattle, and have the manure thrown evenly over this space, and put upon it six hogs. I will engage that the manure will not get "fire fanged," or heated so as to injure it. He should also put eave troughs to his barn, and occasionally, in the warm season, conduct the water from the roof, on to the manure. If he will do this, I believe he may dispense with any chemical operation. He will find the swine excellent chemists in this matter. *Brooklyn, Ct.*

Seeding for Pasturage.—B. H. M., Morris, N. Y. We should sow the timothy or grass seed the first week in September, and the clover the following March, on a light snow. We have known clover sown with rye, in autumn, with good success; but there is risk of its being winter-killed on many soils, and to avoid this risk, it is safer to defer sowing till spring.

Management of a Reclaimed Swamp.—A Subscriber, Simsbury, Mass. If your ground is sufficiently drained, your first object will be to destroy the wild grasses, rushes, &c. If it is in a condition to be plowed, take a plow designed for a bog plow, which you will find at most of the implement stores in Boston, Albany or New-York,—and turn over six or seven inches of the surface as *flat as possible*; then harrow lengthwise of the furrows with a very light harrow, and sow it to red-top and timothy in the early part of September. If the furrows do not lie even, pass a roller over them before harrowing which will press down the edges. If some bull-rushes, or other worthless herbage comes up the next season, dig them up with a mattock, or some tool with a narrow blade, to break the soil as little as possible When the cultivated grasses get well set, it will probably be beneficial to irrigate the surface in the spring months —say April and May; but if the water is continued on through the season, it will bring in the wild herbage again.

NEW PUBLICATIONS.

The Book of the Farm; detailing the labors of the Farmer, Steward, Plowman, Hedger, Cattle-man, Shepherd, Field-worker, and Dairymaid. By Henry Stephens. To which are added Explanatory Notes, Remarks, etc., by John S. Skinner. Two vols. 8 vo. New-York: C. M. Saxton.

The Book of the Farm is a work which needs no encomiums. The author is Mr. Stephens, editor of the *Scottish Quarterly Journal of Agriculture*, known as one of the most sound and practical agricultural writers of the day. The edition here offered, was published under the editorship of the late J. S. Skinner, Esq., who added various notes of comment and explanation. The volumes are presented in a very handsome style both in respect to typography and binding.

The Journal of Agriculture.—We have received the first number of a paper with this title, published at Boston, edited by Wm. S. King and J. J. Mapes. Its leading object may be learned from the following extract from the introductory chapter: "So convinced are we that science is at the foundation of all improvement in Agriculture,—that it is the foundation itself,—that we desire and design to give it *a foremost place* in our pages." We shall rejoice at any aid which the farmer may receive from this or other sources. The number before us contains several very able and valuable articles, and from the known ability of the writers, we anticipate the reception of much useful instruction through this medium. It is to be published semi-monthly, at $2 a year—each number containing 32 pages, octavo.

Harper's New Monthly Magazine.—The number for August is highly entertaining. The leading article is one on the "Childhood and Youth of Bonaparte," by John S. C. Abbott, with six handsome illustrations. Among other good articles we notice "Village Life in Germany," "Infirmities of Genius," "Phantoms and Realities," "American Notabilities," by Lady Emeline Stewart Wortley, &c. Published monthly by Harper & Brothers, New-York, at $3 a year.

The Cottage Bee-Keeper; or suggestions for the practical management of Amateur, Cottage and Farm Apiaries, on scientific principles. By a Country Curate. Published by C. M. Saxton, New-York.

This is an English work of some reputation and will be found useful to bee-keepers in this country. Mr. Saxton has "got up" the book very neatly, both as to typography and binding. It contains cuts of hives, and fixtures necessary to an apiary.

Sward which is plowed early in September, will rot so as to become mellow in spring. If plowed late in the fall, it will remain tough, and the grass will grow the next season.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand since our last, from Dr. Melvin Barnes, F. B. Fancher, Hon. F. Holbrook, S. Clarke Jr., L. M. R., W. G. Edmundson, M. Butler, W. H. C., G. B. Smith, Wm. R. Sanford, J. W. Proctor, Levi Bartlett, John Johnston, B. P. Johnson, A. Marks.

Books, Pamphlets, &c., have been received as follows: "The Illustrated Phrenological Almanac, for 1852," from the publishers, Fowlers & Wells, New-York——"Book of the Farm," by Henry Stephens, with Notes by J. S. Skinner, 2 vols., from C. M. Saxton, publisher, New-York——Fresh Gleanings, or a New Sheaf from the old fields of Continental Europe, (new edition,) and Reveries of a Bachelor, or a Book of the Heart, (10th edition,) both by Ik. Marvel, from the Author.

Mediterranean Wheat.—The more this wheat is known, the better it is liked. Its earliness renders it almost proof against injury from the "weevil" or wheat-midge. It has generally escaped this season, though in some instances other kinds growing in the same field and sown at the same time, were considerably lessened in yield by that insect. This wheat makes good flour and the flour makes good bread. We never tasted better bread, than we ate a few weeks since at the tables of several families in Cayuga and Onondaga counties. We were told it was made from Mediterranean wheat, and that it was preferred to white wheat, if rightly ground, by families in which the proper management of the flour is understood—that the same quantity of it would make more and better bread. The millers know how to grind it better than formerly, and hence it stands better in market—commanding within three to five cents per bushel as much as the best white wheat. It yields well. Messrs. McCulloch & Kirtland, of the Cantonment Farm, Greenbush, raised this season thirty bushels per acre on a field of nine acres, which eight or ten years ago, was so wet that it would only produce white birches, bushes, rushes and coarse water grasses. It was under-drained, and has since borne good crops of hay, Indian corn, and lastly wheat. The latter crop was sold as seed wheat, for $1.25 per bushel, to go to Fort Leavenworth, Mo., on an order to Emery & Co., from the U. States Government.

Fattening Swine on Apples.—The evidence which has heretofore been published, in regard to the value of apples as food for stock, is supported by facts which are frequently brought to our knowledge. Mr. James M. Ellis, of Onondaga Hill, lately stated to us that he had been in the practice of using apples extensively for fattening hogs, for several years, and their value had been proved to be such, that he deems it an object of profit to produce pork by the aid of apples, but would not, otherwise, so regard it. He has a large apple-orchard, in which he allows his hogs to range most of the season. They are of much benefit to the trees by destroying many of the insects which the fallen fruit contains, and by keeping the ground loose and rich. As the fruit approaches ripeness, the nutriment increases, and the hogs thrive faster. When nearly ripe, those apples which are not readily marketable, and not suited to long keeping, are gathered and boiled, or steamed, are mixed with meal and the slops of the kitchen and dairy, constitute the food for fattening hogs. The meal is increased towards the close of the fattening process, being at last equal to one-fourth of the bulk of apples. Mr. E. informs us that his pork is always of excellent quality, and is so regarded by all who have purchased it—being solid, of good texture, and of superior flavor.

Drilling Wheat and other Grain.—The use of machines for sowing grain, is becoming more and more extended every year, owing to the manifest advantages which they have over the common mode of hand-sowing. The advantages have been, on different occasions, so fully set forth in this journal, that they need not be now particularly adverted to. Those who have used drills, have generally adopted them for sowing all grains. Their advantages are most manifest for winter wheat, but are very considerable for barley and other spring grain. Col. Sherwood, of Auburn, sowed all his grain crops of this year with one of Bickford and Huffman's drills, manufactured at Macedon, Wayne county, N. Y. A cut of this drill was given in our May number. He is confident that there is a great gain in the barley crop, by the use of the drill—particularly in the certain and quick germination of the seed, and the regular and uniform growth and maturity of the crop. His barley was very even, and everywhere alike over a large field. Col. S. thinks the drill makes a considerable saving in seed, besides insuring a better crop.

Paper Manufactory.—We are glad to be able to say that we have, at last, an establishment for the manufacture of paper in this vicinity. Mr. C. Van Benthuysen has lately erected and put in operation a mill for this purpose, at the village of Bath, on the opposite side of the river from this place. The building is made in the most thorough manner, and all the machinery and apparatus are of the most approved and improved description. The motive power is steam,—the engine of 100 horse power—and when the establishment is in full operation, it is capable of turning off 1,600 lbs. of a superior article of printing paper per day. The establishment will be the means of disbursing in this vicinity, for labor and materials, many thousand dollars which have heretofore been expended elsewhere.

"Wheat and Bromus."—We observe in a Boston paper, an article with this heading. On reading it, we find it is an advertisement that an individual residing at Lancaster, Mass., offers for *seed* both wheat and "*bromus*." It will probably be recollected by most readers, that the term *Bromus* comprehends a genus of grasses, of which the well known "chess," or "cheat," (*B. secalinus*) is a species. It is hardly necessary to say that this is a great enemy to the farmer; and where suffered to grow among wheat, greatly depreciates the value of the crop. The genus comprises several species, some of which have formerly been cultivated as an experiment, as pasture or meadow grasses, but have been abandoned on account of their trifling value. The "field broome grass," (*B. arvensis*,) is, however, thought to possess some value for certain pastures, on account of its early growth, affording a bite for sheep and lambs. But most species are not much relished by stock. We do not know what species the individual alluded to, cultivates; but we think persons who wish to obtain seed wheat that will not "turn to chess," would do well to be cautious, lest some of the seed of the lauded "bromus" may be amongst it, and should prove to be the very thing which they should especially avoid.

Short-Horn Cattle.—We are informed that George Vail, Esq., of Troy, has lately purchased of Messrs. Lathrop, of South-Hadley, Mass., eight Short-horn cows and heifers. This herd has been well known for several years, and has comprised excellent animals. We are told that those purchased by Mr. Vail are mostly descended from a cross made with the bull Yorkshireman, bred by the late Thos. Bates, and imported by Mr. Cope, of Pennsylvania. We may say in this connection, also, that Mr. Vail reserved, at his late sale, fourteen head of his former herd—numbering most of his imported cows and their immediate offspring, by the bulls Duke of Wellington and Meteor. He will continue to use Meteor and Fortune until he shall recieve a bull of the "Duchess tribe" from England—having already sent out an order for such an one, as well as for two more heifers of the same family. We are glad to see that his enterprize and zeal continue unabated.

Mowing Machine.—Mr. Morgan Butler, of New-Hartford, Oneida county, informs us that he has used Ketchums's mowing machine for two seasons, and can cut with it an acre of grass per hour, with one pair of horses; that it cuts "as smooth as any farmer could wish;" leaves the grass spread evenly over the ground; that it will cut lodged grass, and that which is fine at bottom. He states that it is manufactured by G. W. Allen & Co., Buffalo. Price $100 to $115.

The Vermont State Fair at Middlebury, on the 10th and 11th September, will afford an excellent opportunity for seeing Black-Hawk and other stocks of horses—it being the intention of the breeders to make a full display on that occasion. A great gathering will also be made of the different families of Merino sheep—both of recent importations, and the most noted descendants of former ones.

Gooseberries.—We are indebted to Oliver Phelps, Esq., of Canandaigua, for a basket of very superior gooseberries, of the White-smith variety. Mr. P. has always had great success in the culture of this fruit,—seldom having had any blight; and he attributes the exemption to the bushes being syringed with soap-suds, while the fruit is forming.

Harrow and Garden Rake.—We thank our New-Brunswick friend for his kindness in sending drawings of these implements. The harrow he describes would, we presume, work well on new or rough land, but we do not see that it has any advantages over the "improved Scotch harrow," of which we may furnish a cut. The rake is similar to one in use here.

☞ The *fancy* in the poultry line, will find the Spanish fowls advertised by Mr. Lovett, the genuine article.

Cattle Shows and Fairs this Autumn.

STATE EXHIBITIONS.

NEW-YORK.—To be held at Rochester—all articles to be entered and to be on the ground before 12 o'clock on *Tuesday, Sept.* 16. On *Wednesday* the exhibition will be open only to the Judges, Guests, and Members of the Society—(any person can become a member by the payment of $1.) On *Thursday* and *Friday*, it will be open to all. Tickets of admission, 12½ cents.

AMERICAN INSTITUTE, New-York—Oct. 1, the Fair at Castle Garden will open to visitors at 8 P. M.,—6th, special exhibition of Dahlias and Roses at Castle Garden—7th, testing of Plow at White Plains—8th, plowing and spading match at White Plains—15th, 16th, 17th, cattle show at Madison Cottage, corner of Fifth avenue and Twenty-third street. Entries may be made on the 13th, 14th, and 15th, on the ground, or at any time previous by addressing A. Chandler, Cor. Sec., 351 Broadway—16th, anniversary address, in the evening, by Dr. Charles T. Jackson, of Boston.

VERMONT.—In pursuance of a call made by over two hundred of the agriculturists and raisers of stock in this State, a public meeting was holden at Middlebury, on the 16th June, 1851, at which it was resolved that a State Fair be holden at Middlebury, on the 10th and 11th days of September next. The main object of the Fair is to make an exhibition of our stock, our cattle, our horses, and our sheep. The public may be assured that the best specimens of Black Hawk colts, Morgan, Hamiltonian, and Exclipse stock, and of French and Spanish Merino, and other breeds of sheep, the best Durham, Ayrshire, Hereford, and Devonshire cattle, will be exhibited, and also the best specimens of native cattle, including oxen, cows, and young cattle. Officers and committees were appointed to carry the above resolution into effect—President, Hon. F. Holbrook, Brattleborough—Secretary, Maj. E. R. Wright, Middlebury.

NEW-HAMPSHIRE.—The State Fair is to be holden at Manchester—time not stated.

RHODE-ISLAND.—At Providence Sept. 10, 11, 12.

GEORGIA.—At Macon, Oct. 29, 30, 31.

OHIO.—At Columbus, Sept. 24th, 25th, and 26th.

PENNSYLVANIA.—At Harrisburgh, in October.

CANADA WEST.—Grand Provincial Exhibition at Brockville, Sept. 24, 25, 26th.

State Fairs are also to be held in *Maryland* and *Michigan*, but at what time and places we are uninformed.

NEW-YORK COUNTY SOCIETIES.

Oneida.—At Utica, Sept. 9, 10, 11 and 12.

Saratoga.—At Mechanicsville, Sept. 9, 10, and 11.

Essex.—At Elizabetown, Sept. 17 and 18.

Lewis.—At Turin, Sept. 10, 11. Address by Hon. Horatio Seymour of Utica.

Cayuga.—At Auburn, Oct. 1, 2.

Greene.—At Coxsackie, Sept. 24, 25.

Oswego—At Oswego, Sept. 10, 11.

Farmer's Society of Otsego county, at Louisville, Sept. 25, 26.

Jefferson.—At Watertown, Sept. 10, 11.

Dutchess.—At Washington Hollow, Oct. 1, 2.

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Albany Prices Current.

Albany, August 11.

Flour.—The demand for flour during the month has been very limited; the trade buying only for immediate wants, and that from the East and River being very light. Quotations show a decline in prices, and the tendency is still downward. Accounts from all sections of the Union, almost without an exception, unite in stating that the new crop of wheat will be more than an average one, and that the quality will be excellent. This will be so more especially with our own State, the samples already shown, bearing evidence of the excellence of the crop, and those shown in this city from Maryland, Virginia and North Carolina, in plumpness and brightness, compare favorably with the best samples of Genesee. Of the condition of the Canadian wheat crop, of which we had such bountiful supplies, we have heard but little, and that is favorable. The low prices at which flour now rules has attracted the attention of shippers, and notwithstanding the depressed state of the English market for breadstuffs, large shipments are making from New-York, the quantity sent forward since the 1st of July, from New-York alone, being 308,788 brls. of flour and 236,537 bushels of wheat, against

77,985 brls. of flour and 106 bushels of wheat, for the corresponding period of last year. The quotations in Liverpool on 26th ult. were, Western Canal 19s. 6da20s. 6d., Canadian 20s 6da21s. 6d., Philadelphia 20s. 6da22s., Baltimore, &c. 20s. 6da22s., Ohio 20a21s. The sales here during the month have been about 26,000 brls., closing at $3.75a$3.87½ for Illinois, Wisconsin and common Michigan, $3.87a4 for straight State and good Michigan, $4.06a4.12 for Ohio, and $4.06a 4.18 for Genesee; fancies and extra rule irregularly from $4.50 to $4 25.

Grain.—The crop of new wheat of this State is now coming to market; the first sales were made on Friday last; both lots were afloat; one, a parcel of 1600 bushels from Wayne co., sold at 106c., for milling here, and the other, 1000 bushels, part of a load of 2600 bushels, from Onondaga county, sold at 106c. to go East. The first sale of new Genesee wheat last year was made on the 8th of August at 130c. to arrive, but the first sale made afloat was on the 9th of August, 1400 bushels Wayne county, at 128c. In 1849 the first sale was made at 133½c.; flour selling here both years at the times mentioned, at $5.75a5.87 for pure Genesee; the same quality of flour can to-day be purchased at $4.06¼a$4.18¾. The other sales of wheat during the month were at 92½c. for White Ohio. 100c. for Michigan slightly mixed with Genesee, and 107a108c. for Genesee; the sales reached 10,000 bushels.

In Rye we have no sales to report. Oats have fallen off both in supply and demand; the receipts of Western during the season, have been to a fair extent, but the bulk of the arrivals have been in an unsound condition; the sales during the month have been about 150,000 bushels, closing at 40a41c. for fair to good samples of Western, and 42a43c. for State. Corn continues to come forward very freely, especially Western Mixed, the greater portion of which is in an unsound condition and prices for this description range from 44a53c. for heated and damaged; the sales of the month add up 250,000 bushels, including damaged, quoted above, and 55½ for Western mixed and yellow round. The new crop of Barley is represented to be in good condition. Some samples have already been exhibited and contracts for future delivery made, but not to any great extent; the recent sales to arrive are 4,000 bushels two rowed, Jefferson county, to arrive by the first boats, at 75c., and 3,000 do. four rowed from Niagara county, to arrive by 8th Sept., at 70c. The quotations at Liverpool, on 26th ult., were, Wheat, white Genesee, 6a6s. 1d. per 70 lbs.; mixed do. 5s. 6da5s. 9d.; red do. 5s. 2da5s. 6d.; white Canadian 6s. 2da6s. 10d.; red do. 5s. 8da5s. 10d. Indian Corn, white, per 480 lbs. 29a30s, mixed do. 26s. 3da27s.; yellow flat 26s. 6da27s., and do. round 26s 6da27s. 6d.

Feed.—The sales are about 40,000 bushels at 10c. for bran, 15a 17½ for second quality and 100a106¼ for fine.

Whiskey.—The supply during the month for this market has been rather moderate; the sales have been about 600 brls.; the market closes at 23½a23¾ for Ohio, 23¾ for State and 24c. for S. P. brls.

Plaster.—Quotations for Nova Scotia are steady at $2.25, with free sales.

Hops.—The quantity in market is very light; sales are making of the crop of 1850 at 55a60c.

Provisions.—The retail demand is steady and quotations are unchanged; we quote new mess pork $15a15.50, do. prime $13. Beef, mess $10a10.50 and $6a6.25 for prime. Hams, 8½a10c. for smoked, and 7a7½c. for shoulders in pickle, hams 7a8c., and shoulders 6a6½c. Lard 9a9½c. Butter, 12a14c. for State. Cheese 5a7c. Included in the sales were 7500 lbs. pickled hams for California p n t, and 50 bls lard 9½c.

Salt.—Bag salt is in steady demand at 9½c. for 20 lbs. and 8c. for 14 lbs.

Wool.—The operations in this market have been on a limited scale; the tendency of prices of all grades is downward. A sale of 10,000 lbs. medium fleece on private terms is the only transaction which has come to our notice.

New-York State Fair

In Rochester, Sept. 15th, 16th, 17th, 18th and 19th.

THE subscriber has been appointed local secretery, of the New-York State Agricultural Society at Rochester. Any inquiries respecting matters connected with the arrangements of the show grounds for the Fair, may be addressed to me.

Persons having articles for exhibition, who cannot accompany them to Rochester, can consign them to me, and I will see that they are taken proper care of, and the necessary entries made at the business office. JAMES P. FOGG.
Rochester, Aug. 1, 1851—2t. Local Secretary.

SENECA LAKE HIGHLAND NURSERIES,

Catharine, Chemung Co., N. Y., near Havana Depot, New-York and Erie Railroad.

LARGE size Fruit Trees for Orchard planting, all kinds. Dwarf Trees for yards, of the Pear, Cherry, and Apple, bearing size. Ornamental Trees and Shrubs, Deciduous and Evergreen. Climbers, Grape-vines, Raspberries, Gooseberries, Currants, Strawberries, Cranberry vines, Green-house Plants, Roses, Dahlias. The new and unequaled fall and winter apples, Douse or Hawley, and Wagener. Nursery Stock—Persons wishing trees to plant or sell, are referred to this fall's Descriptive Catalogue, for the great and unequaled inducements offered, as to PRICE and QUALITY, which will be furnished gratis, on application by mail.

Packages amounting to $10, will be sent free of charges, on the Erie Railroad, to New-York and Dunkirk, or any intermediate station. Sept. 1, 1851—1t. E. C. FROST.

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the new Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.
Sept. 1—3t.

Important to Farmers and Planters.

Mr. Editor—Through your columns, especial attention is invited to the following—

AT the next annual State Fair, to be holden at Rochester, in September next, I design to present for competition, a small *Portable Steam Grist Mill* (Conical Burr Stone) got up in a much more simple and cheap form than has ever before been exhibited; and challenge all manufacturers of Mills to a test; and that I will operate one of these Cone Mills, on the Fair ground, with 25 per cent less power than any other kind of mill that is made, doing the same amount of work in the same given time. CHARLES ROSS,
Rochester, New-York.

EXTRACT FROM THE TRANSACTIONS of the New-York State Agricultural Society, 1848:—Another labor saving Machine, useful to the stock feeder, was offered in a Portable Grist Mill, with Burr Stone, horizontally placed, and capable of grinding seven bushels of food per hour.

As ground food for cattle leads to rapid fattening, these and such like Machines, may well claim the Farmer's attentive consideration.
B. P. JOHNSON, Secretary.

Agricultural Rooms, Albany, September 23d, 1850.—C. Ross,—Dear Sir:—In 1849, the Committee says, "that your Portable Grist Mill, performs well, and has been so often commended, that this Committee think they cannot add to its reputation.
B. P. JOHNSON,
Secretary N. Y. State Ag. Society.

N. B.—This Mill has taken the highest premium at the State Fair, for the last four years, it having been exhibited and worked by horse power, at Saratoga, Buffalo, Syracuse and Albany.

From the Georgia Telegraph.—Extract from Ex-Governor Troup's "Communication." Mr. Editor:—Valdorta, Laurens county Georgia.—I have tried the Patent Conical Burr Stone Mill, for grinding Corn, and have found it to answer admirably. No Planter that is not in the vicinity of a public Mill, ought to be without one, if he can afford to purchase, and his family is sufficiently large to require the use of it, otherwise I would suggest that several Farmers of a neighborhood, should unite to purchase one, in common, which being established in a central position, would be accessible to all.
Very respectfully, G. M. TROUP.

☞ Any further information may be obtained by letter, post-paid, or by calling on CHARLESS ROSS, Curtis' Buildings, Rochester, New-York. Sept. 1—1t.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

GUANO.

THE subscriber has just received his supply of Peruvian Guano by ship Diadem, put up in bags weighing about 160 lbs. each, at 2¼ cents per lb.
GEO. H. BARR,
Sept. 1—1t. State Agricultural Warehouse, 25 Cliff-st., N. Y.

HORSE POWERS.

EMERY'S, KELL'S, and WHEELER'S Railway Horse POWERS, for sale at the
STATE AGRICULTURAL WAREHOUSE,
Sept. 1—1t. No. 25 Cliff-street, New-York.

Devon Bull for Sale.

THE subscriber will sell at auction, at the State Fair, Rochester, (if not previously disposed of,) his prize Devon Bull He is five years old the past spring,—received the first prize of the N. Y. State Ag. Society, as the best Devon bull, in 1849. He was from an imported cow, and by a bull bred by Mr. Patterson, of Maryland. He is docile, and good tempered—is in sound health, and in every respect a good specimen of this esteemed breed.
R. H. VAN RENSSELAER,
Sept. 1—1t. Morris, Otsego county, N. Y.

TO WOOL GROWERS.

THE subscriber would again solicit the attention of those who wish to improve their stock of sheep to his flock of Merinoes, believing them to be equal to any, producing as much wool of a good quality, from a given amount of feed, as any flock that can be found. His flock consists of ewes and a few bucks. Bred pure from the importation of Consul Jarvis—bucks and ewes bred from Jarvis' ewes and a French Merino buck purchased of J. A. Tainter, Esq. Also a lot of lambs from an Atwood buck. Those wishing to purchase will do well to call and examine before purchasing elsewhere. Prices will be made reasonable to suit customers. For further particulars inquire of the subscriber.
A. H. AVERY.
Galway, Saratoga co., Sept. 1—1t.*

Superior Cultivated Bell Cranberry Plants.

THIS new variety of the Cranberry, grown and cultivated upon ordinary upland, is intended expressly for garden and field culture, being extremely hardy, vigorous and productive well suited to almost any soil and location.

The vines can be sent to any part of the United States in the root, carefully packed in boxes at $7 per thousand or can be furnished growing in ornamental pots forming a beautiful ornament for the window, garden, or Greenhouse. Price $2 per pot.

Persons wishing for plants should order previous to the first of October next. Full printed directions accompany the plants.

Circulars giving full information, or specimen plants sent gratis, to all post paid applicants. Address F. B. FANCHER, Gen. Agent.,
Sept. 1—2t.* Horticulturist, Lansingburgh, New-York.

IMPORTED DEVON BULL FOR SALE.

THE subscribers will offer for sale at the auction held on the closing day of the State Agricultural Society's Show, at Rochester, in September next, (if not previously disposed of,) their thorough bred imported north Devon bull "Megunticook," which took the first prize at the fair of the American Institute in October, 1850.

Megunticook is now five years old, and was purchased by us from George Turner, of Barton, near Exeter, England, in the autumn of 1848, by whom he had been used the previous season. He was bred by Mr. Baker, of Devonshire, out of a cow got by "Silifant," one of James Quarterly's best animals, for which he got 100 guineas:—sire Prince Albert, which took the first prize at the Royal Ag. Soc. Show at Southampton in 1846; and was afterwards sold by Mr. Turner to the French government for 120 guineas. He is a very sure getter; and uncommonly gentle.
W. P. & C. S. WAINWRIGHT.
Sept. 1, 1850—1t.* Rhinebeck, Dutchess county.

HURDLE FENCE FOR FARMERS.

A NEW and improved fence, much superior to anything of the kind now in use, formed of wrought-iron, possessing therein an unusual degree of elasticity and strength; when properly constructed and well placed, they will endure for years and never need repair. The improvement consists in the mode of security. The rails or wires instead of the eyes used in the older kinds through which the bolts pass to bind and strengthen the fabric, the fence is now made in sectional parts with slats in the posts so arranged that when in place they break joints with each other. This slat in one section extends upwards and in the other downwards and each rail is furnished with a loop or dead eye, turned on each end, which prevents it from passing through the slats. The usual screw is placed a distance of about three hundred feet apart and the entire fence may be tightened and prepared on the ground before it is set up. The iron clamps, foot of each post, are so turned as to present a flat surface of resistance to the earth. Price $1.50 per rod, 12½ cents additional if painted. For sale by the patentee agent,—where samples can be seen.
A. LONGETT,
Office of the State Agricultural Warehouse,
Sept. 1—1t. No. 25 Cliff-street, New-York

PARTNER WANTED.

THE advertiser has one of the best vegetable farms in New-England, and is desirous of obtaining a partner to take an equal interest in the raising of vegetables, the farm having been devoted to that purpose for some time past—some 60 acres are now heavily cropped with summer and winter vegetables, and the sales from the farm will amount to about $7,000 this year. An active single young man that can furnish $3,000 would be preferred. The farm is within a very short distance of a market that takes all the produce of the place at high prices. Any gentlemen wishing to establish a son in a safe agricultural business would find this a good opportunity. Address B. H., Office Albany Cultivator. Sept. 1—1t.

Golden Australian Wheat,

RAISED by Samuel L. Thompson, Esq., on Long Island, for sale in lots to suit purchasers.

CANADA WHITE FLINT, a superior article, also Mediterranean and Red wheat, for sale by
GEO. H. BARR,
Sept. 1—1t. State Agricultural Warehouse, 25 Cliff-st., N. Y.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. have the pleasure to announce to their *patrons* and the *public in general*, that their stock of

FRUIT AND ORNAMENTAL TREES, SHRUBS, &c.,

which they offer for sale the coming autumn, is of the *very best* quality; and embraces everything in their line that can be procured in the trade.

Dealers and planters of trees *on a large scale*, will be treated with on as liberal terms, as can be done by any establishment of reputation in the country; they flatter themselves that for correctness of nomenclature of fruits, (which is a serious consideration to planters) that their stock is as nearly perfect as can be, having all been propagated on their own grounds, *from undoubted sources*, under the personal supervision of Mr. Saul.

They have propagated in large quantities, *all the leading and standard varieties*, which *are proved* to be best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all *novelties*, and certain kinds particularly suited to certain sections and localities of the Union, and the Canadas.

Their stock of Pear trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

The stock of Apple trees is also very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces, also Grape-vines, Gooseberry, Currant, Raspberry, and Strawberry plants in great variety, &c. &c.

Also Pears on Quince, Cherry on Mahaleb and Apple on Paradise stocks, for pyramids and dwarfs for garden culture, and of which there is a choice assortment of the kinds that succeed best on those stocks.

Deciduous and Evergreen Ornamental Trees and Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus leaved Ash, Upright gold barked Ash, Flowering Ash, Three Thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Auracaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

WEEPING TREES.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, gold barked Weeping Ash, Weeping Japanese Sophora, Weeping Elms (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great variety; such as Hybrid Perpetuals or Remoutants, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette and Prairie Roses; also Herbaceous plants in great variety, &c. &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn and Osage for Hedge plants.

Newburgh, Sept. 1, 1851—2t.

To Farmers, Gardeners and Nurserymen.

THE Lodi Manufacturing Co. offer for sale a freshly prepared article of Poudrette for fall use. It will be found a cheap, handy and lasting manure upon grass preceded by wheat or rye, also upon turneps, celery, &c. It has been found of great use upon lawns as a top dressing, and grass lands generally. It has also received great commendation for its efficacy upon trees and shrubs, particularly Evergreens and ornamental trees. Reference is made to A. J. Downing, Esq., B. M. Watson, Plymouth, J. M. Thorburn & Co. and others —also to the following letter:

Extract from a Letter of Hon. Daniel Webster, dated

WASHINGTON, March 19, 1850.

"If I neglect the annual purchase of some of this article, my gardener is sure to remind me of it. He thinks it almost indispensable, within his garden fence; but there are uses, outside the garden, for which it is highly valuable, and cheaper, I think, than any other manure, at your prices. A principal one, is the enrichment of lawns and pleasure grounds, in grass, where the object is to produce a fresh and vigorous growth in the spring. Our practice is to apply it when we go to town in the autumn, and we have never failed to see its effects in the Spring."

Price of Poudrette $1.50 per bbl. for any number over six barrels —and of Poudrette for *shrubs*, $2.00 per bbl. for any quantity—in both cases *delivered* free of cartage on board of vessel in New-York.

☞ Five shares of stock for sale in the Lodi Manufacturing Co. Dividend payable in Poudrette. Apply to the LODI MANUFACTURING COMPANY, 74 Cortlandt st., New-York.

Sept. 1—2t.

Mediterranean Wheat.

THE reputation this wheat has obtained for a few years past, has put it beyond doubt, that it is the very best variety for our climate and soil—being so early, it *entirely* escapes the ravages of the Fly. We have now a choice lot on hand, and offer for sale, at the Albany Agricultural Warehouse and Seedstore, 369 & 371 Broadway, Albany.

EMERY & CO.

THE WATER CURE JOURNAL.

A NEW Volume of this "Journal of Health" commences in July, 1851. Subscribers should send in their names at once. The Philosophy and Practice of Hydropathy, Physiology and Anatomy of the Human Body, Dietetics, Physical Education, the Chemistry of Life, and all other matters relating to Life, Health, and Happiness, will be given in this Journal. We believe that man may prolong his life much beyond the number of years usually attained. We propose to show how. Published monthly, at One Dollar a year, in advance. Please address all letters, post-paid, to

FOWLERS & WELLS,
Aug. 1—2t. 131 Nassau street, New-York.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 9 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Best Fruit Book.

Sent by Mail free of postage.

J. J. THOMAS' American Fruit Culturist, with 300 illustrations, new (6th) Edition just published, price $1.00, on receipt of which post-paid, we will forward a copy by mail, to any P. O. in the United States, free of postage. Address

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Youatt's Great Work on the Horse.

Sent by Mail, post-paid.

NOW ready, a new edition of "Youatt on the Sructure and Diseases of the Horse, with their Remedies," also practical rules to buyers, breeders, breakers, &c., brought down to 1849 by W. C. Spooner, the celebrated English Veterinary Surgeon, to which is prefixed an account of the breeds in the U. S., by H. S. Randall, Esq., with 55 illustrations—price $1,50, on receipt of which post-paid (if mailed in presence of P. M., at our risk,) we will forward the work, postage paid to any P. O. in the U. States. Address, post-paid,

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Fruit and Ornamental Trees, &c.

THE subscribers solicit the attention of Nurserymen, Orchardists, and Amateurs, to their present large and fine stock of Nursery articles.

Standard Fruit Trees for Orchards—Thrifty, well grown and handsome, of all the best varieties.

Dwarf Trees for Gardens—The largest stock in the country, and the most complete.

Dwarf Pear Trees—Our collection consists of well known leading varieties, and numbers more than 150,000 saleable trees. The superiority of these, being grown in this country, over imported trees, is well known to every intelligent cultivator. Nothing in fact in this country, can equal our collection of Pear Trees; they can be had from one to four years growth, some of which are now covered with fruit.

Dwarf Apple Trees—We cultivate in large quantities, the best and handsomest varieties of Apples on Doucain and Paradise stocks, for Dwarf and Pyramids, and can furnish them in large quantities from one to two years growth.

Dwarf Cherry Trees—All the leading varieties are cultivated, on Mahaleb stocks, extensively. We can furnish by hundred and thousand, from one to two years growth.

Cherry Currant—The largest variety known. Upwards of 1000 plants on hand.

English Gooseberries—All the best sorts.

Large Fruited Monthly Raspberry, that gives a crop of fine Fruit in the Autumn.

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Ornamental Shade Trees—Of good size for Streets, Parks, &c., large and well grown.

Choice Trees and Shrubs, for lawns and pleasure grounds, including all the finest new and rare articles recently introduced.

Hardy Evergreen Tress—Norway, Spruce and Balsam Fir, of small size in large quantities, and a moderate supply of large ones, besides nearly *Ffty new and rare Evergreens*, including Deodar Cedar, Cedar of Lebanon, Chili Pine, Cryptomeria or Japan Cedar, Himalayan Spruce, &c. &c.

Roses, *Pæonies*—A large and complete collection, including the finest novelties.

Phloxes—A collection of upwards of 60 varieties, including 30 new varieties imported last spring.

Dahlias—Upwards of 100 select varieties, including the finest English prize flowers of 1849 and 1850.

The following catalogues, giving full information as regards terms, prices, &c. will be sent gratis, to all who apply by post-paid letters, or at the office:

1st. A general descriptive catalogue.
2d. A wholsale catalogue.
3d. Catalogue of Select Green-House Plants.
4th. A special catalogue of Dahlias and Bedding Plants for 1851.

ELLWANGER & BARRY,
Mount Hope Garden and Nurseries, Rochester. N. Y.
August 1, 1851—2t.

SAXTON'S COTTAGE AND FARM LIBRARY,

Volume First now ready.

THE Cottage Bee-keeper: or, Suggestions for the Practical Management of Amateur and Cottage Apiaries, on scientific principles, with an appendix of notes, chiefly illustrative. By a country Curate. Price 50 cents. To be followed by others, forming the most complete Series of PRACTICAL AND USEFUL BOOKS that has been offered to the American public for many years.

Aug. 1—2t. C. M. SAXTON, 152 Fulton, st., N. Y.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organized for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—8t.

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 190 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1½ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 26 Cliff-street, New-York.

Cottage Buildings, &c.

THE AMERICAN ARCHITECT—Now complete in 24 numbers, at 25 cents each single, or $5 for the work complete in numbers; $6 bound in two vols—the whole containing 24 beautiful designs for country residences, with plans, elevations, and estimates, varying from $600 to $5000. This is one of the most desirable architectural books ever published in this country or England.

Also, THE AMERICAN STAIR BUILDERS' GUIDE, in one vol. octavo, with numerous illustrations. Price $2.

Published by C. M. SAXTON, 152 Fulton street, and for sale by all the booksellers. New-York, August 1—2t.

GREAT PREMIUM BOOK.

STEPHEN'S BOOK OF THE FARM.

A Complete Guide to the Farmer.

A NEW and complete edition, revised and adapted to the use of Farmers in the United States, by

J. S. SKINNER.

This Book contains about 1200 pages, and embraces
EVERY SUBJECT OF IMPORTANCE,
connected with Agriculture in all its branches, with nearly
FIVE HUNDRED ILLUSTRATIONS
on wood and steel, making it one of the most attractive and
USEFUL BOOKS
yet offered to the Farmers in this country. Showing the best methods for acquiring a *thorough knowledge* of practical husbandry, with a portrait of the American Editor.

The publisher makes the following liberal offer to Farmers and clubs in order that every one may possess this valuable EVERY DAY REFERENCE BOOK.

Single copies bound in two vols. cloth,	$4.00
Two " " cloth,	7.00
Five " " "	16.25
Ten " " "	30.00
Single " " leather,	4.50
Two " " "	8.50
Five " " "	18.75
Ten " " "	35.00

C. M. SAXTON,
Agricultural Book Publisher,
Aug. 1—2t. 152 Fulton st., New-York.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212½ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.

July 1—tf.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
D. C. SMITH, Schenectady.
August 1—3t Executors of John J. Degraff, deceased.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va. R. H. ARMISTEAD,

Aug. 1—3t. Executor and Com.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Bickford & Hoffman's Grain Drill.

THIS drill is made and sold by the subscribers, at Macedon, Wayne Co., N. Y. Of the large number which they have sold, not one has failed to give satisfaction. Decisive testimonials can be furnished from a great number of our best and most eminent farmers, that this drill is *more perfect as a whole* than any other of the many good ones which have been used in the country.

Since last year, we have added an IRON CASING to the *gear work*, to guard against the possibility of accident; the drill tubes are disposed alternately in parallel rows, sowing the grain in rows seven inches apart, and greatly facilitating the passage of the drill tubes among stones and clods. They sow with perfect evenness, whether on a level or ascending or descending a hill. Every part is made of the very best materials, and with great neatness and durability

☞ *Of the great number sold, not one has been returned, although each is warranted to sow all kinds of grain with accuracy and with satisfaction to the purchaser.* ☜ Subject to this warrant, we respectfully invite a free and full trial of the merits of this implement.

For an editorial notice and figure of this drill, see the June number of the Cultivator for this year, p. 209.

PRICES—$65 for 7-tube drill; $75 for 9-tube drill, and $85 for 11-tube drill. All orders addressed to the subscribers, at Macedon, Wayne Co., N. Y., thankfully received and promptly attented to, and shipments made at canal or railroad. BICKFORD & HOFFMAN.

Macedon, Aug. 1, 1851—2t.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed. Boston, Aug. 1, 1851—12t.

A New Volume of the American Phrenological Journal.

COMMENCES July 1, 1851. Now is the time to subscribe. Devoted to Phrenology, Physiology, Magnetism, Physiognomy, Mechanism, Education, Agriculture, the Natural Sciences, and General Intelligence, profusely illustrated: it cannot fail to interest every class of readers. Every family, and especially all young men and women, should have a copy. It is printed on the first of every month, at One Dollar a year. All letters should be post-paid, and directed to FOWLERS & WELLS,

Aug. 1—2t. 131 Nassau street, New-Yor

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AGRICULTURAL IMPLEMENTS.

G. W. Girty.] **Girty & Elliott, Cleveland,** [F. R. Elliott.

KEEP constantly on hand and for sale, the largest collection of Agricultural Implements in the Western States. Every new pattern and improved implement is obtained and offered for sale as soon as manufactured. Farmers need have no occasion to send East for we can furnish everything desirable that is contained in any Eastern collection. Cleveland O., Sept. 1—2t.

SEED WHEATS.

GOLDEN Australian, White Soules, Beaver Dam, White Flint, White Chaff Bearded and Mediterranean Seed Wheat, selected with care from fields where but the one variety was grown. For sale by GIRTY & ELLIOTT,
Sept. 1—2t. Cleveland, Ohio.

To Farmers.

THE advertiser offers for sale in fee, or on lease for 99 years, renewable forever, four farms—containing from 150 to 180 each—located in Baltimore county, Maryland, 20 miles from the city of Baltimore, on the York turnpike, and within one and a half miles of the Baltimore and Susquehanna railroad—all of them having been heavily limed, and producing annually fine crops of corn, wheat, and grass.

For further particulars address JOHN MERRYMAN, Jun'r, Hayfields, Cockeysville P. O., Baltimore county, Maryland.
Sept. 1—4t.*

Devon Cattle at Auction.

I WILL sell at auction, the 11th day of September, the last day of the State Show at Middlebury, the following Devon Stock: One 3 year old Bull, bred by Stephen Atwood, of Connecticut. His grand sire and grand dam were imported. Two 7 year old cows, and one 2 year old heifer, all in calf; 2 heifer calves. One French Merino Buck, (perhaps two,) from Monsieur Cughnot's flock, the best in France. WM. R. SANFORD.
Orwell, Vt., Sept. 1—1t.

SPANISH FOWLS.

THE subscriber has for sale several pair of this beautiful breed of fowls, *warranted pure*. Specimens will be exhibited at the State Fair at Rochester. J. M. LOVETT.
Albany, Sept. 1—1t.

FOR SALE.

FULL Blood Shanghae Fowls, from a stock imported in the ship Canada, direct from Shanghae in February last. All orders promptly executed. WM. BULL,
Sept 1—2t.* Plymouth, Ct.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

ELLWANGER & BARRY,

Mount Hope Garden and Nurseries, Rochester, N. Y.,

WILL publish on first of August, *a new wholesale price Catalogue*, for fall of 1851, which will offer unusual inducements to purchasers of Nursery Stock in large quantities. Every person who intends purchasing in the ensuing fall, will find it to their advantage, (previous to sending their orders elsewhere) to be in possession of one of these catalogues, which will be furnished gratis to all post-paid applications or at the office.
Rochester, N. Y., Aug. 1, 1851—2t.

TO FRUIT GROWERS.

FOR SALE by the subscriber, an extensive assortment of the best varieties of the Pear, Apple, Plum, Cherry and other Fruit Trees; also Ornamental Trees, Shrubs, Evergreens, &c. &c.

Tulips in upwards of 200 choice varieties. 50,000 Buckthorn plants for hedges, one, two, and three years from the seed.

Pear trees in a bearing state, and extra sized fruit trees, always for sale. Purchasers are invited to call and make their own selection.
Sept. 1—2t. SAMUEL WALKER, Roxbury, Mass.

Apple Trees for Orchards,

For sale at the Nursery of J. J. THOMAS, Macedon, N. Y.

MANY thousand trees of large size, (mostly 7 to 9 feet,) and of handsome and thrifty growth, *including the best standard sorts, and the best new varieties*, and

All Propagated from Bearing or Proved Trees,

are offered for sale the present autumn, at *Fifteen Dollars per hundred*, or sixteen dollars if securely packed in wet moss and bound in strong mats, and delivered at canal or railway. The best selection of sorts will be made by the proprietor, in all cases where purchasers desire.

Also, an excellent assortment of proved and genuine Peach, Cherry, Plum, Pear, and Apricot Trees, Raspberries, Strawberries, &c., add a carefully selected collection of the finest Ornamental Trees, Shrubs, Hardy Roses, and Herbaceous Perennial plants.

All orders, accompanied with remittances, and directed Macedon, Wayne co., N. Y., will be carefully and promptly attended to.
Sept. 1—2t.

New Staminate Strawberry.

WALKER'S SEEDLING.

THIS new variety of the Strawberry is for sale and will be sent out, to applicants in the spring of 1852, price one dollar per dozen. Orders may be addressed to Samuel Walker, Roxbury, or to Mr. Azell Bowditch, at the Massachusetts Horticultural Seed Store, School Street, Boston.

The Fruit Committee of the Massachusetts Horticultural Society, report of the variety as follows:—"Walker's Seedling;" this strawberry has now been fruited three years; it is a dark colored berry, of good size, a very abundant bearer, of high flavor, very fine quality, and it will be, it is believed an acquisition. It is a staminate, worthy, as the committee think, of an extended cultivation. *Boston, June 28th*, 1851.

Fruit, Ornamental and Evergreen trees, shrubs, &c., for sale at the nurseries of SAMUEL WALKER.
Sept. 1—6t. Roxbury, Mass.

PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Linnaean Botanic Garden and Nursery, Flushing, near New-York.

THE following varieties, and others, at reduced rates, by the dozen or hundred, and Descriptive Catalogues sent to all post-paid applicants.

Charlotte, Crimson Pine, Primate, Profuse Scarlet, Primordian, Hovey's Seedling, Burr's New Pine, Iowa, Crimson Cone, Black Prince, Taylor's Seedling, Prolific Swainstone, Lizzie Randolph, Eustatia, Montevideo Pine, Brilliant, Cornucopia, Le Baron, Refulgent, Theresa, Unique Scarlet, Unique Prairie, Old Early Scarlet, Serena, and the Alpine varieties. W. R. PRINCE & CO.
Sept. 1851—2t.

Wanted for the South,

A HORTICULTURIST who is experienced in his profession and can give satisfactory testimonials of his character. One with a small capital, or can bring with him a selected horticultural stock, will meet with a rare opportunity for investment, on application, post-paid, to the Editor of this Journal. Sept 1—1t.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

Advertisements.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, OCTOBER, 1851. VOL. VIII.—No. 10.

Wheat Insects—Joint-Worm.

EDS. CULTIVATOR—The farmers of this county are greatly concerned and dismayed at the ruin of their growing wheat, proceeding from an insect that bears with us, the above designation. It is said that it has been known in your state; but of this I doubt, as I have been a subscriber to your paper for very many years, and have seen no notice of it. I have read in your columns of the grain-worm, (*Tipula tritici,*)* and think it probable, as this insect is unknown to us, it may have been hastily confounded with this new enemy, that has but recently appeared among us. To dissipate all doubt on this head, and to appeal to your information and researches, I beg leave to make you acquainted with this most formidable depredator on the wheat crop, through a few samples herewith sent, of the plants so injuriously affected by its deposites.

We frequently find woody fibre diseased, swollen out, and knotted, by the punctures of insects providing a nidus for their young. In the same way, this fly, emerging from the chrysalis state in the dry straw, from the first till the middle of May, deposites through a puncture in the leaf or sheath of the wheat, near the joint, its egg or young. The parts of this succulent texture thus pierced, take on diseased action, become indurated, and firm, as you will perceive, unsightly knots. At one time I supposed that the deposit was made in the stem, or joint; but repeated examinations have satisfied me that the disease was confined to the enveloping husk. If you will carefully and gradually pare away the surface of these knots, you will soon come across the cells formed in the wheat-leaf for the nidus, and discern in them, with the naked eye, the maggot. This examination is more usually made at the time of threshing, in August, when these worms have attained larger size, and more complete life. Then you will find in these hard and rugged excrescences, from four to ten worms to the joint. It hibernates as a chrysalis, and emerges, as I have before said, as a winged insect, about the early part of May, when it commences its fearful ravages on the wheat plants. Whether the worm finds a home in any other plant, I am unable to say; but from its rapid increase, our farmers are disposed to believe that it does.

Its modes of inflicting injury are different, according to the growth of the plant it attacks. If the head has started up out of the *boot*, it then attacks the husk around the joint next below; a swelling and knot are instantly formed, creating a sort of knee, and toppling the head down at different angles of inclination. At other stages of growth, it deposites near the ground, before the head-stalk appears, and completely prevents its exit. In every case, it operates by a species of strangulation on the plant, and finally starves it out, so that the juices no longer circulate, and the feeble heads dry up and perish. In this way, a wheat-field that is thus preyed upon, presents the appearance of a stunted, pale, decaying sedge, with here and there a few straggling heads of wheat, that, in case of their escape from the rust, would not reward the husbandman for the labor of gathering them.

It is difficult to convey to you a faithful picture of the complete destruction of the wheat crop, in many instances, by this insect. It is vain to think of reaping at all in many fields. The farmer is esteemed fortunate, where this insect has been three years, if he makes his seed and bread.

A friend of mine tells me he first saw this insect in some wheat grown from northern seed, and thought it must have come in some straw brought on with it. This was four years ago. Its first appearance in this county is usually dated not more than three years back. It exists now only in one half of this county, and, as I have been told, in some other counties to the north-east of us. The sphere of its ravages, is, therefore, restricted; but to our utter dismay, it seems to be gradually spreading abroad, at the same time that, instead of passing away from the scenes of its early devastation, it has actually, from year to year, so increased its ravages as to leave its early sufferers without hope for the future.

Your subscribers in this section of the country will be, doubtless, gratified by any information or suggestions you can afford them on the subject of this strange calamity to their great staple—the wheat crop.

I regret that I am not able to furnish you with a description of this insect. It has been hatched out in glass jars, by some of my acquaintances, but they could not give me that definite and minute delineation of it which would be required by the entomologist. They speak of it as a dark-colored gnat, with small wings, some want of activity, and little power of flight. If you are disposed to try experiments with so dangerous an enemy, I would be glad if you would take the trouble of bringing out some of these flies by exposure to strong heat, before their time, and handing them over to some naturalist in your midst, to enlighten us about their history, if they have any, or give us an accurate description of them. But lest I may be the means of introducing among you the most destructive pest, you will not consider me as recommending these insect acquaintances to your favor or mercy; but on the contrary, invoking for them the most careful and relentless extermination at your hands.

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* The insect here alluded to, is what is commonly known as "the weevil," or wheat-midge, *Cecidomyia tritici*. EDS.

For fear you may not be able to find the maggot and its cell, you will perceive I have, in one or two instances, laid bare the latter, and, doubtless, the carcase of the maggot may be seen in it by the time these plants reach you. Most respectfully, Alex. Rives. *Carlton, Albemarle county, Va.*

On receiving the above communication from Mr. Rives, we sent specimens of the wheat-plant which he forwarded us, to Dr. Fitch, with a request that he would examine them, and furnish such remarks for publication as he might deem proper. He has kindly sent us the following very able paper, which comprises much valuable information in regard to insects which attack wheat, as well as to the "joint-worm" in particular. Eds.

Editors Cultivator—I communicate herewith, my notes and observations, on examining the wheat-plant which you received from Alex. Rives, Esq., of Albemarle county, Va., containing the insect designated the "joint-worm."

Bugs (Hemiptera) *upon growing wheat.*—I first observe, lying upon the infested stalk, the insect to which you allude in your letter, as perhaps having been hatched from the joint-worm. It is a small, oval insect with a very flattened body, six-hundredths of an inch long and scarcely half as wide, of a lively blood red color, with a band across its middle above, of a yellowish white color, occupying the two first or basal segments of the abdomen, behind which, in the middle of the back, are two black spots, one behind the other. Its six legs and its beak, or sucker, are of a honey-yellow color, and its horns or antennæ have the two basal joints light yellow, and the two terminal ones (which are enlarged, forming an oval, pointed knob) of a dark brown color. No vestiges of wings or wing-cases are discernible. This insect is plainly the young larvæ of some species of bug, of the order Hemiptera, and probably of the genus *Capsus* or *Phytocoris*. It is too immature for me to say anything more definite respecting it. But in this connection I may remark, that I have several times observed the eggs of insects of this family arranged in straight rows upon the leaves, not only of wheat, but of other grains and grasses, and have watched the larvæ coming from these eggs and feeding in their vicinity. These larvæ never have the form of worms, but resemble the perfect insects, except that their wings and wing-cases are not yet developed. They subsist upon the juices of vegetables, which they extract by means of a sucker, in much the same way that the musketoe obtains the blood of man and other animals. When first hatched, they draw their nourishment from the leaf that they are then upon; but as they acquire more size and strength, they wander away and live equally well upon other vegetables. Some of our species (the common squash or pumpkin-vine bug, for instance) seem to prefer plants of one kind, whilst others show no such preferences, but subsist equally well upon a variety of plants. I have frequently noticed, however, that plants that are weakened and diseased and of puny growth, are much more infested by these *vegetable leeches*, as they may appropriately be called, than those that are healthy and vigorous. The presence of this red bug, therefore, upon the wheat stalk from Virginia, is only accidental, or as a consequence and not a cause of disease. It cannot have been bred from any worm infesting the wheat-plants, as in none of the stages of their existence do insects of this kind have the form of maggots or worms.

The "joint-worm."—The wheat stalk, immediately above the lower joint, in the specimen before me, is obviously diseased for a distance exceeding a half inch. It is swollen to a size a third larger than it is above or below; it is changed to a harder and more wood-like texture; the veins are distorted and crowded out of their natural straight and parallel direction; and several long spots of a paler color and slightly elevated, like blisters, appear. On carefully cutting into these blistered-like elevations, a hollow cavity is found, which is nearly a quarter of an inch long, and tapering to a point at each end. In each of these cavities lies a footless worm or maggot, which is about ten-hundredths of an inch long by four-hundredths broad; of an oval form, rather more tapering posteriorly than towards its head; and divided by slight constrictions into thirteen segments. The worm is soft, shining, of a uniform milk-white color, and on its anterior end is a small V shaped brown line, marking the situation of its mouth. So exactly does this worm in its form and appearance resemble the larvæ of the Hessian-fly and the other species of Cecidomyia which have fallen under my examination, that I entertain no doubt that it pertains to the same genus of insects. And when we see it infesting the same part of the wheat-stalk with the Hessian-fly, and producing much the same swollen appearance of the stalk that the Hessian-fly causes, no person but one well acquainted with the habits of that insect would suspect that this was anything different. It is therefore important that the points in which these two insects vary from each other, should be carefully noted, that they may not be confounded with and mistaken for each other.

Differences between the joint-worm and the Hessian-fly.—As far as I am able to ascertain from the single wheat-stalk which chiefly shows disease in the plant before me, this worm differs in its situation and habits from that of the Hessian-fly, in the following particulars.

1st. The Hessian-fly worm occupies a natural cleft or partition in the wheat plant, to wit, between the sheath which is formed by the base of the leaf, and the main or central stalk or culm. Therefore, on drawing the leaf aside so as to part this sheath and separate it from the stalk, when it is stripped off downwards almost to its base, the Hessian-fly worm is exposed to view. This may be done without any cutting or tearing of the plant. The joint-worm, on the other hand, lives in the parenchyma or substance of *the sheath*, near its base. On separating the sheath from the culm and drawing it aside, the worm is not exposed to view: it lies in the texture that is thus separated, and can only be seen by cutting into the elevated or blistered spot already spoken of, which spots are equally manifest on the inner as they are upon the outer surface of sheath.

2d. The Hessian-fly worm is closely enveloped, its surface being in direct contact with and pressing against the inner surface of the sheath on the one side, and the outer surface of the culm upon the other side. It thus wholly fills the spot where it lies, and has no space for moving in any direction. This worm on the other hand does not fill the cavity in which it lies, its cell being larger and double the length of the worm. In this respect it differs not only from the Hessian-fly, but also from the wheat-midges, but coincides with some of our other species of Cecidomyiæ, the willow gall-fly, for instance, (*C. salicis*) which I described in the first volume of Dr. Emmons' Journal of Agriculture and Science, page 263.

3d. Two, three or more of the Hessian-fly larvæ and pupæ are most commonly found living in direct contact with each other, like a litter of pigs in their nest. This worm, however, is always alone. Though there are five worms in the stalk under examination, each has a cell of his own. They occupy, so to speak, different rooms in the same house, each individual having a room of his own, with no door for his exit or to admit a visit from his kinsmen.

4th. The natural cavity or hollow in the center of the straw, is but little crowded upon, and lessened in size by the larvæ and pupæ of the Hessian-fly. But with this worm, as appears from the single plant under examination, for a distance of over half an inch above the joint, the culm has been so crowded upon and compressed by the swollen sheath, that this hollow is entirely obliterated at some points and can be but faintly discerned at others.

5th. The natural texture of the wheat stalk is but little altered by the Hessian-fly larvæ and pupæ. On splitting and cutting the stalk, no evident dissimilarity appears in its substance, between the diseased and the healthy parts. Here, however, the diseased part is of a much more solid and wood-like texture than the unaffected part above it.

Miss Morris' Wheat-midge.—The differences now stated, show conclusively that this cannot be the Hessian-fly worm. Another insect so closely allied to the Hessian-fly as to have been confounded with it, is known to exist in this country; and I avail myself of this opportunity to make some explanations with respect to it. In 1840 and 1841, Miss Margaretta H. Morris, of Germantown, Pa., communicated to the American Philosophical Society and to the Philadelphia Academy of Natural Sciences, sundry observations which she had made upon an insect infesting the wheat crops in her vicinity, which insect she deemed to be the Hessian-fly, and pointed out what she consequently regarded as errors in the previous accounts of this insect. Her observations were extensively noticed in the agricultural journals of the day. In my history of the Hessian-fly, prepared for Dr. Emmons' Journal of Agriculture and Science, and republished in the Transactions of the State Agricultural Society for 1846, I found myself obliged to ignore the statements of Miss Morris, my own observations showing me that the previous accounts respecting the habits of this insect were unquestionably correct. Miss Morris, however, on the appearance of my article, re-affirmed that her observations were also authentic, and called upon me to say what her insect was, if it was not the Hessian-fly. As I had never seen her insect, I of course could not say what it was. Annually, in the latter part of June, when the wheat is in blossom in this vicinity, a small ash-colored fly, a quarter of an inch long to the tips of its wings, appears upon it in swarms. This fly is so closely allied to the Garden Hylemyia (*Hylem*[illegible] *hortensis*) of Europe, that I am in doubt whether [illegible] really distinct from that species. When recently captured, and ere it has become at all shrivelled by drying, it has a row of oblong black spots along the middle of its back, instead of a continuous black stripe, which the European species is described as having. This fly had been popularly regarded in this vicinity as being the wheat-midge which produced the little yellow maggots that had for several years committed such appaling havoc in all the wheat crops in this section of the country. And I could only conjecture that possibly Miss Morris had fallen into a similar error, as she lays much stress upon the fact that her insect appears abundantly upon the growing wheat in the month of June, and describes the female as being destitute of fringes to its wings. I was engaged in studying out for publication the habits and transformations of this fly, that I might incidentally thereto make some reply to Miss Morris, when I was much gratified to be released from a task so unpleasant, by observing in the proceedings of the Academy of Natural Science, for August, 1847, a notice from this lady, that she had received specimens of the insect which I had described, and that it was clearly distinct from the one which she had been investigating. In further confirmation of this fact, I may add that Dr. Harris writes me, he has received from Miss Morris specimens of her insect, which are not sufficiently perfect to enable him to define the marks which characterize it, but which show to his satisfaction that it is a species of Cecidomya different from the Hessian-fly. This point being thus definitely settled, I may remark that much credit is due to Miss Morris for having detected discrepancies and made discoveries which none but a close investigator would have been apt to notice; and that she should have confounded together two insects that are so very similar in their appearance and habits, can detract but little from her reputation. Mistakes more gross than this have in repeated instances been made by the most acute and experienced observers.

Differences between the joint-worm and Miss Morris' wheat-midge.—From the accounts given of her insect by Miss Morris, we are forced to conclude that it too, is different from the joint-worm of Mr. Rives. She throughout represents the larvæ as inhabiting the center of the the straw. We infer from her description that they are not imbedded in the parenchyma of the stalk, but are wholly within the hollow in its center, and that on merely splitting the stalk, they are to be observed adhering to the surface which is thus exposed to view. They moreover occur in all parts of the center of the stalk, from the root upwards, to above the last joint. Now this location is so widely different from that of the joint-worm, and of the larvæ of the Hessian-fly, as already pointed out above, that we must deem Miss Morris' insect to be different from either.

Conclusion.—As the result of this examination then, we arrive at the conclusion that the insect brought to our notice by Mr. Rives, is different from any of those with which we have hitherto been acquainted. It therefore forms an important addition to our knowledge of the diseases and casualties to which wheat is subject, a good crop of which all our farmers are more proud to [illegible]w, than any other which they cultivate.

One step more remains, to render our knowledge of this insect, and the disease which it occasions, so complete that it can be correctly designated and definitely spoken of in all time to come. The fly that will be hatched from these joint-worms requires to be scientifically named and described with such precision that it can be distinguished from the many other species of midges and gall-flies that are now known. This can only be done, by an examination of the living fly—for these insects are so minute, so delicate, and fragile, that dried specimens of them seldom show what their natural appearance and characteristic marks are. Happily, under the present postal regulations, by which our citizens are so greatly accommodated, light articles of this kind can be transmitted speedily, securely, and almost gratuitously, from one extremity of our country to the other. Specimens of insects, and of infested grain, straw, &c., respecting which any one is desirous of information, may readily be enclosed in a goose-quill, or some similar vehicle, and sent in a letter to any person conversant with matters of this kind, for his examination and opinion. It is, perhaps, now too late in the season for Mr. Rives to find any of the larvæ or pupæ of these insects among the stubble of the wheat-fields; but should they re-appear another year, by forwarding us portions of the diseased straw, at intervals, say of one or two weeks, when the worms are approaching the period of their maturity, some of them would be sure of coming to hand in a condition so healthy and advanced, that they would complete their transformations, and yield us living flies, from which a suitable description can be drawn. Should he be able to furnish us with such specimens, he will not only confer a personal favor, but be instrumental, we trust, in making an interesting and substantial addition, both to agricultural and entomological science. Yours truly, **Asa Fitch.** *Fitch's Point, Salem, N. Y., Aug.* 22, 1851.

AGRICULTURAL RESOURCES OF OHIO.

BY W. G. EDMUNDSON.

When the series of papers on the Agriculture of Ohio was commenced, the writer supposed they would extend through some six or eight numbers of the Cultivator; but circumstances have transpired which make it proper that for the present, at least, this feature of our correspondence should be suspended. The cause for this change may be readily explained, by simply announcing the fact, that a tour through Michigan, Illinois, and Iowa, is contemplated, and some notes by the way-side will afford, doubtless, very agreeable and entertaining subject matter for the readers of the Cultivator. It therefore, may be expected, that a pretty full description of the country bordering on the Upper Mississippi and her tributaries, will be given, embracing the peculiar features of the agriculture of the country through which we may pass, for the purpose of affording the general reader some reliable facts by which he may judge of the comparative advantages that are possessed by different sections of those new and flourishing states.

There are many matters of interest connected with the agriculture of Ohio, that deserve an extended notice, but owing to influences already explained, only a mere outline description can be given, and for the convenience of the reader, the remarks will appear under their respective appropriate heads.

Sheep Husbandry.—This branch of business is yearly on the increase, and is fast becoming a great favorite among the farmers in the older settled portions of the state. The extraordinary high prices paid for wool this seaso[illegible] have produced the conviction on the minds of many, that those rates will continue to be offered in future seasons, and hence almost a mania has been produced among those who possess large flocks of sheep, and in many cases, persons who have heretofore confined their operations to other branches of agriculture, have purchased sheep the present summer, and have seeded down their worn-out lands with the cultivated grasses, for the purpose of affording pasturage for their flocks. The number of sheep in Ohio may be fairly estimated at 4,000,000; these, at a low calculation, yielded a revenue of $2,500,000. Those who pay much attention in the selection, and are careful in providing their flocks of sheep with good wholesome summer and winter food, have no difficulty in obtaining an average value equal to one dollar per fleece. This, in connection with the increase of lambs, make it a business beyond all comparison, more profitable than any other branch of farming. Some choice flocks of full-blooded French Merino sheep have yielded, on an average, four pounds per fleece, which brought forty-five cents per pound, and in a few instances still better than this was done, though the flocks in the latter instance were not so large, and a portion of them were wethers.

In the eastern counties, those bordering the Ohio river, the full-blooded Saxon sheep may be found in great abundance; and the fineness of the staple of the wool cannot be excelled by any other portion of the Union. It must be admitted by all who have given this matter proper investigation, that Eastern Ohio, as a region for the production of a fine staple of wool, has no competitor on this continent. The soil and climate, and withal the tastes and habits of the rural population, are eminently adapted to produce this result; and if the prices for the finer sorts of wool be at all remunerative in future years, the flocks of sheep throughout all the hilly counties of the state, will be greatly enlarged. This region, embracing some fifteen to twenty counties, is capable of sustaining 10,000,000 sheep, without materially interfering with other products. The more sheep, the more clover the land can be made to produce; and the larger the yield of clover, the greater will be the quantity of wheat the soil is capable of producing. This doctrine is now pretty well understood by many of the old wealthy farmers of Jefferson, Harrison, Belmont, and other eastern counties of Ohio, who have realised large fortunes from their extensive flocks of fine wooled sheep.

Agents from eastern manufacturing establishments passed through all parts of the state during the winter months, and contracted for the fleeces with the farmers. many months before the sheep were shorn, at prices ranging from 30 to 60 cents per lb., and almost invariably paid a considerable portion of the money in advance. One farmer in Licking county, having some 600 head of fine wooled sheep, contracted for his entire clip at 45 cents per lb., and received in the month of January, on the same, *one dollar per fleece* on the contract. These and other influences of a similar character, have raised the expectations of the farmer a good deal higher, in relation to what they expect to realize from their sheep in future years, than can be reasonably obtained. The barbarous system of slaughtering sheep by the thousand, for the pelts, and tallow will be somewhat checked by the upward tendency of wool. In Knox county alone, some 30,000 sheep were slaughtered last autumn, which netted to those engaged in the operation, at least one dollar per head, clear of all expenses. Whilst the sale of those sheep produced a large revenue to the country immediately around those mammoth slaughtering establishments, it produced a direct loss to the owners and the State, from the simple fact that the clip of wool, which was two-thirds produced, would have yielded a larger amount of money than was obtained for the sheep; and besides, the stock, for a similar production in future years, would have been in the hands of the farmers, and the increase of lambs would also have been an additional source of income. Sheep can only be had at present, by offering twice the rates they could be had for last season, and unless a great change for the worse in the wool market should take place, there is no good reason why, in periods of three years at least, the flocks of sheep in Ohio may not be doubled, until the numbers equal at least 20,000,000. The attention of the farmers is strongly directed to the importance of adopting improved systems of culture and farm management, and upon trial this will be found difficult of accomplishing without manure, and the latter can only be produced through the agency of stock, among which stand foremost sheep for enriching thin and worn out lands.

Horned Cattle.—The herds of the improved breeds of British horned cattle found in Ohio, are confined almost exclusively to the Short-horns, or Durhams. In no part of the Union can so great a number of pure blooded Short-horns be found as in the Scioto Valley. Herds of from one hundred to three hundred each are frequently met with, that combine all the symmetrical points of the improved Durham breed of cattle, and are unquestionably as free from alloy, or mixture with American stock, as can be met with on any part of this continent. Ohio became stocked with Durhams through the praise worthy exertions of the "*Ohio Company for the Importing of English cattle,*" which was organized in the year 1833. Some score or upwards were imported, at the start, of both sexes, and these by judicious crossings have stocked central Ohio especially, with a race of cattle that scarcely have any equal. The genial climate and rich soils that prevail along the whole extent of the Scioto Valley, are conducive to the improvement of horned cattle.

Some 30,000 head of fat cattle are fed and driven to the eastern markets from the Scioto Valley annually, and the average value of each ranges from $50 to $60, making the handsome business of nearly $2,000,000. Other portions of the State also drive a large number of cattle over the mountains yearly, but Ross, Pickaway, and Madison counties do by far the largest proportion of the business. In some instances from 400 to 600 head are fed by a single farmer and driven to the New-York and Philadelphia markets. The very best quality of clover and permanent pastures are furnished the [illegible] during the summer months, and early in autumn they are turned into corn fields and owing to the openness of the winters require little or no protection, from the the snow or frosts; and by the early part of spring are well fattened. The stock for feeding consists almost exclusively of four and five year old steers, which net when in market from 700 to 900 lbs. each, of beef, hide, and tallow. It costs, at a low average, to get a drove of cattle from the Scioto Valley into the New-York market, from $10 to $12 per head, without including the loss of flesh sustained by driving, which may safely be calculated at $10 per head, reckoning beef at $7.00 per hundred lbs. which is much below the New-York price. When the central Ohio railroad is completed, the business of driving on foot, it is thought, will be rarely practiced, as a gain of from $5 to $10 per head will be obtained by transporting the cattle in cars on the railroad. When the three roads are completed, leading to New-York, Philadelphia, and Baltimore, the inducements for stall feeding beef cattle for these markets will be so great that it will doubtless be engaged in on a large scale. Ohio might and doubtless will do a large business of this kind, and when it becomes pretty generally adopted, it will afford an additional evidence of the wisdom of her farmers. The stock of barn-yard and stable manure is quite too limited at present, and when each arable farmer cultivating one hundred acres of land adopts the plan of stall feeding some six or eight six year old bullocks yearly for the Eastern market, then will the feeder become enriched by an abundant annual supply of rich manure, and the crops of grain and grasses will afford ample proof of the wisdom of such a course of farming.

Dairy Business.—The north-eastern portion of the state, generally known by the appellation of "The Reserve," and of recent date by that of Cheesedom, is the great dairy district of Ohio, which consists of eight counties, inhabited almost exclusively by New-England people. It would be difficult to reduce any branch of business to a more perfect system, than that practiced by the intelligent farmers of the Reserve in their dairying operations. The cheese is shipped to New-York, Cincinnati, St. Louis, and other large emporiums of trade, and is put up in the very best style for market. Cheese factors purchase the green curd at the rate of from three to four cents per lb., of the farmers, and call at their doors regularly every week-day morning for it, and thus much labor and responsibility is got rid of in curing and marketing the article, and the business, on the whole, is better done than if each farmer pressed and cured the product of his own dairy. A single factor finds no difficulty in manufacturing the curd produced by a thousand cows, and in prosecuting the business to this extent, is warranted in investing a suitable amount of means in the erection of appropriate buildings, and in the purchase of economical appliances for its profitable prosecution. Both farmer and factor appear satisfied that a higher character is given the cheese in the market, and better prices are obtained for it, than if the old system was practiced. It imparts a uniformity to the appearance and quality of the cheese, throughout a large district of country, that no other plan could have so thoroughly accomplished; and on the whole, the system may with safety be adopted in any part of the union suitable to the production of cheese, where an abundant supply of curd can be obtained at a fair price.

Hog Slaughtering Establishments.—The farmers in the eastern states can form no idea of the extent of the pork trade of the west, unless they personally inspect the slaughtering establishments that are to be found in Cincinnati, and other large cities. 20,000 are very commonly slaughtered and packed for market in a single season, by one house; and the whole number slaughtered in these establishments annually, west of the Alleghany mountains, average 2,000,000, weighing each 200 lbs. of net pork, of which at least one-fourth are slaughtered in Ohio. The number packed at Cincinnati alone, equal 400,000 head in a single season. During the month of December, the latter city is crowded almost sufficient to produce suffocation, with droves of hogs, and draymen employed in delivering the barrelled pork on board of steamers. Some 1,500 laborers are employed in the business from six to eight weeks, and in many cases it is kept in full operation both day and night, including Sundays, from the beginning to the completion of the season. The Sabbath is not at all regarded by those who are extensively engaged in the pork business, and a stranger spectacle could hardly be presented to a person brought up in a land noted for its steady habits, than to see many of the main business streets of the Queen City of the West, literally crammed with waggons, carts and drays, employed in transporting hogs just from the hands of the butcher, from the slaughtering to the packing house, on the Sabbath. Indeed, this appears to be the great day for bringing up and completing the weeks' work, among the principal pork packers of Cincinnati; and as a very large proportion of the business is done in a densely populated portion of the city, it is not to be wondered at, that disease and pestilence infest these portions of the city to an alarming extent. The filth and dirt, and impure atmosphere, in a large portion of the upper end of the city, can be better imagined than described, all of which are the products of hog slaughtering and packing establishments.

The lowest price that the Ohio farmer can afford to raise and fatten pork, is $3.50 per 100 lbs. This, in an average of seasons, is obtained, and the past season, as high as $4.50 per 100 lbs. was paid for a large proportion of the best fattened hogs that found their way into market. If there was any certainty of hogs maintaining those prices, Ohio, without much effort, could supply annually one million that would net each a barrel of pork, which, with the lard, would give an annual revenue to the state of $10,000.000. At present, great preparations are being made to feed an unusual quantity the approaching season, and the average price throughout the entire summer, for store hogs, has been $3.50 per 100 lbs. net. The most extensive pork feeders fatten on standing corn, and as slovenly as it may appear, it is the most economical mode that can be employed in the west, where labor is scarce, and the productions of the soil are almost spontaneous.

Horses.—The stock of horses throughout the state are not quite equal to what may be seen in the best farming districts of New-York. This may be accounted for in two ways—1st, from the fact that but few or no high priced stallions are supported in the state; and 2ndly, the best mares are bought up and driven east, by speculators. The horses are generally of a medium grade and when compared with those commonly seen on the Mohawk valley, would fall in the estimation of good judges, even below mediocrity. The great demand for horses, and the high prices they have brought this and the past season, will speedily bring about a salutary change in this respect. Ohio should stand first on the list among the states, as a producer of fine bred, and high priced horses, and through the agency of its numerous well conducted agricultural societies, doubtless, great changes in this respect will be effected.

As an evidence of the suitableness of the country for the business of rearing horses, one fact will be sufficient to illustrate the point. A respectable and wealthy farmer in Pickaway county, confines his operations almost exclusively to grazing horses and breaking them in for the eastern markets. Directly behind his stately mansion he has a field containing 1200 acres, which he calls his horse pasture. It was originally scrub oak plains and prairie, and a living stream of water passes through its entire length—clumps of trees are here and there left for the purpose of shade, and the whole has been from the first kept in permanent pasture, consisting principally of natural grasses and herds grass, or red-top.

The stock of horses are bought of the farmers in the surrounding country at the age of three and four years old, principally unbroken, and are delivered to the purchaser in the month of November. They are turned into pasture, and are wintered on the grass that is allowed to grow unmolested during the entire months of August, September, and October, which in favorable seasons attains the height of six inches. The snow scarcely ever falls so deep, but that the stock can paw it away with their feet and get sufficient to keep them in high condition. In the spring they are invariably in better condition than in autumn, and early in the month of June, men are employed to break them and sleek them up to drive east. The field is entirely cleared in July, and from that period up to the setting in of winter, no stock of any kind are allowed to roam over the field in question. It need hardly be added that the proprietor of the estate adverted to is accumulating property very fast, and we learned from one of his sons while inspecting the stock, that in an average of seasons each horse netted a profit of fifteen dollars, and besides the and which was naturally a thin soil, was yearly growing more productive and valuable.

The remarks on the agriculture of Ohio might have been greatly extended, but for the present, as has already been intimated, they must be brought to a close. On future occasions, however, we may have reason to make favorable mention of this state, which in point of natural advantages for rural pursuits has scarcely a superior either in America or Europe. Its natural resources are almost boundless, but man has yet much to do in their development.

American Reaping Machines.

The following letter from Mr. Johnson, was received by us too late for insertion in our September number, and it was therefore handed over to the editors of the *Evening Journal*, in which paper it was published, but it will be new to many of our readers, who will be much interested in its subject matter. Eds.

London, July 29, 1851.

Eds. Cultivator—On Thursday, the 24th instant, three of the Jurors on Implements proceeded to Mr. Mechi's farm, in Essex, (Tiptree Hall,) about 45 miles from London, to try the American Reaping Machines, and to test the draught of the plows. Col. Challoner, of the English department, Baron Martens, of Belgium, and myself, were the jurors. This day was selected at the request of Mr. Mechi, who held his annual festival for the examination of his crops, stock, &c. The day proved, as did that for the trial of the plows, one of the favorite days of England—that is, *rain incessantly*. We left here at eight o'clock in the morning, and arrived at Mr. Mechi's about 11 o'clock, and found assembled from one hundred and fifty to two hundred farmers and others, to witness the trial, as well as to examine the farm and its crops and arrangements. Mr. Mechi's wheat was not ripe, but quite green—the crop very heavy upon the ground, and every thing as unfavorable as possible for trying the Reapers. The people present were clamorour for the trial, and the person having Hussey's Reaper in charge placed it on the field, and a trial was made with it; but the grain was so green, that it soon clogged the machine, and it passed over without cutting it. This damped, as you may well imagine, the spirits of many who had hoped the trial would have been satisfactory. It was suggested by the other members of the jury, that we had better not try McCormick's; but I informed them that the machine was there for the trial, and it must be tried, as I could not consent that the gentlemen present, many of whom had come for the sole purpose of witnessing the trial, should go away with the impression that our Reapers could not do the work promised. McCormick's Reaper was accordingly placed to its work, and with a single span of horses, it went through the grain, green as it was, cutting all before it. When I ordered the machine stopped, the crowd around it, who had followed after very closely, were addressed by Mr. Mechi. He said to them: "Gentlemen—here is a triumph for the American Reaping Machine. It has, under all its disadvantages, done its work completely. Now, let us, as Englishmen, show them that we appreciate this contribution to our implements for cheapening our agriculture, and let us give the Americans three *hearty English* cheers!" They gave them, I assure you, *with a will*; and a fourth with a hip! hip! hurra! The Jurors then required the machine to cut another swath, so that it might be timed, and its powers ascertained. Accordingly, the machine was put in operation again, and cut 74 yards in length in 70 seconds, doing its work first rate, and to the satisfaction of every one present. At this rate it would cut twenty acres per day, during their usual hours of work here. A large number of the farmers present called upon me to express their great gratification at the result under such unfavorable circumstances; and said they considered the result a very great triumph for the American machine; and that it had fully redeemed everything I had said in relation to its capabilities.

Hussey's was afterwards tried upon a clover field and did the work well. A machine made after Hussey's, by Garrett, here, with some alterations, was tried upon a clover field, but would not work. The English machinists will learn, by-and-bye, if they expect to improve American machines, they must learn to work them—until they do that, their attempts to improve will fail, as this did. Another trial will be given when the grain is ripe, probably, for the satisfaction of many who were not present, and who are anxious to see the machines work.

You can hardly imagine how the tone is altered since we have had our implements tried. The "Prairie Ground" is filled with inquirers, and some gentlemen have found out that there are some people who know what they are doing in some other parts of the globe as well as this little Island, where, it is most readily admitted, there are many "clever" people. The McCormick machine was put together in the Palace again, and yesterday it had more visitors, I believe, than the "Ko-i-Noor" diamond itself!

The plows were tested by a dynamometer the same day, and the result I will give you hereafter. There was considerable difference in the land, and the subsoil was very tenacious and the average depth was quite large; and the trial not more satisfactory, on the whole, than in our trials heretofore, where, as here, in a half day, *twenty plows or more are tested.*

It is some little consolation, after all the taunts that have been heaped upon our implements, that we have been enabled, measurably at least, to put them in a proper position before the people here; and the orders we are receiving for our plows, as well as the award for our reapers, shows that we have made the people satisfied that our light, cheap implements can do all we promised they would do; and that they are very desirable implements to be used here. And I have not any doubt myself, that a manufactory of American plows here would very soon work a revolution in the implements in use here; but they must be made by our own manufacturers to be successful.

After the trial of the reapers, about 150 gentlemen sat down to a first rate dinner prepared by Mr. Mechi, and did, as you may well suppose, creditable justice to it. We had some of us, at least, worked well in the rain and mud, and bore *outward* evidence at least, of being *working-men*. Mr. Mechi presided, assisted by Lord Ebrington as vice chairman. Several speeches were made. Lord Ebrington, in giving the health of the foreign visitors present, remarked that it must have been truly gratifying to their American brethren, to witness the triumphant and complete success of the American reaper, which had done its work under great disadvantage, to the entire satisfaction of all present; and the occasion was one of very deep interest to all present. (Cheers.) He coupled with his remarks, the name of Prince Frederic *of Holstein*—who replied on behalf of the guests, in a very neat speech—and concluded with the health of Mr. Mechi, who responded in a straightforward speech that drew forth rounds of applause. In allusion to the reaping machine, Mr. Mechi remarked that we had to-day received from our American brethren, descendants of this country, the American reaper, which had been entirely successful. It was a fact worth remembering, that they had sent here a reaping machine that would *cut all the grain in England;* and this had been in operation in the United States seven years, and but for the Great Exhibition in progress, would have remained unknown to the farmers of Great Britain. It was a boon of no ordinary value, and was undoubtedly one of the most important improvements introduced into this country, to cheapen the production of food Several other speeches were made, and the company separated, after the labors of the day, well satisfied with what they had seen, and rejoicing in the result of the trials made. When the reapers were on trial, and the first one was breaking down the fine grain, Mr. Mechi was appealed to to have the trial arrested, as it was doing so much damage to his grain. His answer deserves to be written in letters of gold, for the benefit of every friend to improvement in agriculture, as well as for those who believe money is the only thing to be worshipped. He replied: " Gentlemen, this is a great experiment on trial for the benefit of my country—and if necessary to carry it out successfully, *take my seventy acres of wheat!* Individual interest must ever give way to the settlement of a great principle."

I shall furnish you, as soon as I have leisure, with a full account of Mr. Mechi's farm, its management, and what, in my judgment, is the complete success of his experiment: the reclaiming of a poor, hard, and stubborn soil, and the production of as fine crops as I have seen in England, taking his whole farm together.

Mr. T. Bell, C. B. Miller, Esq. of Peterboro', the excellent secretary of the Madison County Society, and myself, were the only Americans present; the day being so very unpleasant, prevented several gentlemen from attending, who had expected to have been with us.

Farming of the Earl of Leicester.—Mr. Bell and myself left about 8 o'clock, and proceeded to Norwich, in Norfolk, about 80 miles distant, the same evening; and the next morning proceeded Holkham, about 32 miles from Norwich, the seat of the Earl of Leicester, and examined his fine Devon stock, his farm buildings, and farm. The stock was not so extensive as I had anticipated, though there were some very fine animals. He had six or eight beasts fattening for the Smithfield Show, that were very fine, and will prove, I imagine, severe competitors for the Short-horns and Herefords.

Twelve fine yoke of Devon oxen are employed on the farms, and their quick elastic tread was a subject of admiration, when compared with the heavy, loggy tread of the English cart horse, to be met with in the north of England, and in some of the middle counties. Mr. Keary, the bailiff of the Earl of L., was absent, so that we had not the privilege of seeing him, as we desired and expected.

The crops of wheat, barley, and oats, in Norfolk are remarkably fine. In fact, taking a district of 10 miles, through which we passed by different routes, I have never seen such uniform heavy fields of wheat and barley. The lots here are very much larger than is common in this country; and the system of farming is what is called here high farming. The common rotation of crops in Norfolk is:—1. Turnips, with manure; 2. Barley, with manure; 3. Clover or Beans; 4. Wheat, with manure, (special.)

The turneps are fed off on the field. On the Clover ley they manure with barn-yard manure and marl; the marl giving a better stand for the wheat. We saw the fields preparing for the crop of wheat. The clover is sown with the barley and mowed once. We saw at the Earl of Leiceister's, the Mangel Wurzel fresh as when pulled from the ground. They place them in the autumn in rows, about three feet high, three or four feet at the bottom, and cover with straw, and take them out as wanted. They were feeding some South Down and cross sheep for market with these and oil cake, and they were in capital condition. There are 1,000 to 1,500 sheep constantly on the farm, and they are sending them off to market regularly, and replace by purchase from the north. The fat cattle are in covered stalls, or rather yards, as they have abundance of room, well littered, with water and salt before them; and they are fed with oil cake, mangel wurzel, cut too fine, I think, and they feed them what they will eat.

The fixtures at the Earl of Leicester's are excellent, and everything about the establishment shows the greatest care, to the very smallest minutæ of the farm. They were threshing their wheat with a first rate portable steam engine, and the amount of work performed by it was very large.

Two English gentlemen, whom we met on our return to Norwich, informed us that the use of rape cake has proved entirely successful in arresting the ravages of the wire-worm in the turnep crop. They burrow themselves in the rape and that is the end of their labors.

After leaving Norfolk I took a day at Ipswich, at Ransom & May's great plow and engine establishment, and it is one of the most complete, as it is one of the most extensive establishments in this country. *Nine hundred men* are constantly employed. While I was there, five steam engines were being shipped for Lord Drombrieski, of Russia, for his gold and copper mines in Siberia, and a large lot of plows for Valparaiso; but I have not space or time to give a description of this establishment, which I intend to do in full hereafter.

I visited a number of farms in Suffolk, where they have good farmers, but their land is not equal to Norfolk and their crops lighter. The Suffolk polled cows are altogether used for the dairy—they are very excellent milkers and a valuable breed. The Suffolk Punch horse is here found in great perfection, and they are the best breed of work horses I have seen. The horses are large, but clean limbed, good travelers, and very valuable. There are worth from £30 to £60. But I must close. Yours truly, B. P. Johnson.

Sowing Wheat thick.—The Michigan Farmer informs us that Gen. Williams, of Lima, in that State, has been in the practice of sowing two bushels of wheat to the acre, the effect of which is small straw, always bright, rarely or never liable to rust, and increased product—and that others had observed a similar result.

ANSWERS TO INQUIRIES.

Bugs on Vines.—F. P., Lansingburgh, N. Y. There are several kinds of bugs which prey on vines—such as melons, cucumbers, squashes and pumpkins. The two species, however, which are most destructive, are the "yellow-striped bug," (*Galeruca vittata*,) and the "pumpkin" or "squash bug," (*Coreus tristis*.) The former will eat any of the plants mentioned, while they are in the first or seed-leaf, though it appears to prefer cucumbers and melons. The latter is more frequently, and indeed almost wholly, confined to squashes and pumpkins. As to means of protection for vines, boxes with cheap netting fastened over the tops, have been used to advantage while the plants are small, and it is in this stage they are most liable to injury. But it is well to examine the plants early, every morning, till they begin to run, fairly, and kill all the bugs, which at that time will be found mostly around the stem of the plant. The squash-bug continues it ravages through the summer, rearing successive broods of young, which feed on the vines. The only effectual way known to us of preventing their destructive course, is to regularly hunt and destroy them. The eggs are deposited in clusters on the under side of the leaves, and are of a bright yellow color, which makes them easily seen, and that part of the leaf to which they are attached, may be plucked off, which will usually prevent the eggs from heating, but to make this sure, they may be rubbed in the earth by the foot.

Planting Hedges.—C. E. R., Scipio, N. Y. The seeds of the Buckthorn and other thorns, may be planted in the fall. (See Cultivator for 1850, pp. 67–69.)

Raising Evergreens from Seed.—Inquirer, Providence, R. I. The seeds of the pine and most evergreens should be gathered in the fall. The cones, which contain the seeds of the pine may be collected about the last of October, and by being laid on a floor in a dry room, will open so that the seeds will drop out, in the course of the winter. If it is designed to raise plantations of pines, prepare the land in spring by plowing, and the seed may be sown in rows eight feet apart, either by a seed-drill, or by making shallow furrows and dropping the seed by hand and covering it with the hoe or plow. Squirrels and mice are very fond of the seeds, and if the cones are not gathered as soon as they fall, the seed will be likely to be carried off by these animals.

Gapes in Chickens.—C. R., Butternuts, N. Y. There is good reason to believe that this complaint is caused by a parasitic worm in the wind-pipe of the fowl. A successful remedy has in some instances been applied by extracting the worms. This has been done by taking a quill from a hen's wing, and trimming off the feathers to within about half an inch of the centre, pointed at the bottom. This was put down the wind-pipe, and twisted round, by which operation, some of the worms were drawn out, and others so loosened that they were coughed up by the fowl. See Cultivator for 1844, p. 305.

Drains of Wood.—T. S. E., Salem City, Oregon. If you can get neither tiles nor stones, you will probably find pitch-pine boards the best substitute. Take inch boards, ten feet in length, and eight inches wide. If the bottom of the drain is soft, one board should be laid on the bottom, and two others placed edgewise on this, leaning together at their upper edges. A drain may thus be formed, which in a tenacious soil will last many years, and will do much good.

Grass for Woods Pasture.—L. M. M., Va. Sow Kentucky Blue-grass—*Poa pratense*—a bushel of seed to the acre. You can probably obtain it in Baltimore or Richmond.

NEW PUBLICATIONS.

A Muck Manual for Farmers.—By Samuel L. Dana. Third edition, revised and enlarged. Lowell: James P. Walker.

Dr. Dana's "Muck Manual" has done the farming interest good service. It has been for sometime out of print, and we are glad that he has provided a new and enlarged edition. We presume, (though we have not critically examined the work,) that the author has improved it by such lights as the progressive knowledge of chemistry has been able to impart in regard to the composition of soils and the food of plants. We have no hesitation in recommending the work to farmers as one of a useful character, and from which many suggestions may be obtained that will aid the profits of their labors.

"Fresh Gleanings" and "Reveries of a Bachelor."—Our old friend and correspondent, Donald G. Mitchell, has favored us with his "Fresh Gleanings" from abroad, and his "Bachelor Reveries" at home. As testimonials of regard we prize them, but more for their real merit. No person, be he sage or youth, can read the simple, earnest language of that portraiture of meditative hours, without finding something to remind him of his own peculiar, and, as he had always supposed, unknown thoughts. The author will be claimed as a friend by all who peruse his reveries, and many will leave his companionship "happier and holier" men. We bespeak for Ik. Marvel the attention of those who enjoy the retrospect of youthful days, and would be pleased with the autobiography of what Carlyle would call a "beautiful soul." We hope to hear from him as soon as leisure will permit.

Lossing's Pictorial Field-Book of the Revolution.—We have received No. 16 of this interesting and beautiful work. It abounds, as former numbers have done, with original illustrations sketched by Mr. Lossing, and which are executed in a style not surpassed by any work of the day. We have said before, (what may with propriety be repeated,) that this work ought to be in every family in the United States. Published by Harper & Brothers, New-York.

Harper's New Monthly Magazine.—The September number contains a continuation of the biography of Bonaparte, by John S. C. Abbott. This article has six spirited illustrations. The next is an article, on the Treason of Arnold, by Benson J. Lossing, with sixteen illustrations. The number contains the usual amount of interesting reading. Published by Harper & Brothers, New-York, at $3 a year.

Notes of a Tour in Europe—No. 2.

Eds. Cultivator—We spent one day looking over the city of Madrid, while our courier was getting our passports vised, preparatory to leaving the country. This has to be done, as well to leave as to enter. This passport system is a very great annoyance, which every one will find out soon enough who travels in countries where they are required. My passports cost me considerable money, besides several days delay. It would have taken two days to have got them through the different offices, if our Minister had not interferred. By his assistance we were enabled to get them through in one day. The fees were between three and four dollars. Madrid is full of soldiers, like all other places where royality is supported. To go through the Palace and Queen's stables, and see the enormous amount of money it takes to support royality, and then consider that this vast amount of money comes from the pockets of the poor people, and then to contrast these with our plain republican institutions, must lead one, I think, to detest such governments, and lead him to appreciate and love his own.

Through the politeness of our Minister, (who accompanied us,) we were admitted to see the Queen's stables. We went first, partly through the carriage houses where we examined as many as 50; they were for different uses and times; some are private carriages, others for travelling, others for hunting, and others riding in state on different occasions; one which they showed us, they said cost eighty thousand dollars. We next visited the stables. I should judge there were 100 horses in them. They were for different purposes—for the carriage, hunting, riding, and for racing. They were nothing more than a middling lot, take them together. There were some very good animals, some English, a few Arabian, but mostly a mixed breed. I saw some fine mules in Madrid, and some in the teams in the north part of Spain, very large and strong. As a general thing the mules are quite small. They feed these horses and mules, as far as I could learn, wholly on cut straw and barley, dry—the barley without grinding.

We started from Madrid 21st of March, five o'clock in the morning, on our return to France; came back the same way we went—arrived at Paris the 26th, at nine o'clock in the evening—stopped one night on the way. We were gone from Paris 22 days; I never saw as great a change in the looks of a country, as there was in France while we were gone. There had been a good deal of rain, and grain had come up, and the grass had started and looked very green and fine.

We now concluded to shape our course for Stuttgart, Germany, where Charles L. Fleischman, Esq., resides, as American Consul, wishing to secure his services, as his intimate knowledge of the country and the different flocks of sheep, would make them valuable. We went from Paris to Strasburgh, a strongly fortified town on the Rhine. We went part of the way by railroad, and the rest by diligence. We were two nights and one day on the road, therefore it did not give us a very good opportunity to see the country; what I saw was hilly and poor.

We crossed the Rhine on a bridge of boats. The river was very high at the time, the country on the Rhine being much under water, but the land must be very rich and fine. We crossed from Strasburgh to Khel, from Khel to Carlsruhe by railroad, which runs along on the borders of the Rhine, from Carlsruhe to Stuttgart by stage coach. It takes about 12 hours from Carlsruhe to Stuttgart. There is a good deal of orcharding in the south part of Germany; there is generally a row of apple trees on each side of the highway. The land is all occupied; the hill sides are generally terraced and planted to grape-vines. Every few rods there are stone steps from the bottom to the top. The way they manure the vines, is to haul manure and leave it at the bottom of the hill, in piles; it is then carried up these steps by men. I saw a good many at work at it.

We had the good luck to find Mr. Fleischman at home, and he was very ready to do anything to benefit an American. His attachments for this country are very strong. I found him very much engaged in getting up a work on cattle—a work which I think must be very valuable. He has drawings of the different kinds of cattle and descriptions of them, as to their value for different purposes—for beef, milking qualities, oxen, &c., and the adaptation of different breeds to different locations, a subject that is much better understood and practiced upon in some parts of Europe, than it is in this country. I noticed this particularly in England. In the poor parts you will see the South-Down sheep; where the land is of medium quality, you will find a mixture between the South-Downs and Leicesters; in the rich parts, the Leicesters.

Mr. Fleischman was very busy, and hardly knew how to leave, but to accommodate us and benefit his adopted country, he consented to accompany us through Germany. We first paid a visit to the Agricultural School at Hoenheim, said to be one of the best in Germany. We were very kindly received and accompanied through the establishment by one of the professors. The students are taught agriculture, both scientifically and practically. We found them out at work on the highway. We found everything well arranged. The stock is all housed, and the farmers are as careful to save the urine as any part of the manure. The stables for the cattle are all arranged with gutters to carry the liquid into cisterns. They have some very good cattle, but nothing superior. The sheep are mostly fine wooled, small, and light fleeced. They have wool on cards from every sheep of every year since they commenced, which shows a great improvement in the quality. They have large quantities of samples from different parts of the country. They have all kinds of grain, seeds, and all kinds of farming implements. They have shops for the manufacture of all kinds of farming tools, carts, waggons, &c. The plows which they manufacture are of lighter and better patterns than any I saw in Europe, except in England. They have a large cabinet of minerals, also the skins of animals and birds stuffed, and most kinds of insects preserved, and the bones of most kinds of domestic animals. They have several professors who give lectures on farming, and the treatment of animals in sickness, and health.

The country around Stuttgart is in a high state of cultivation. We started from Stuttgart March 2d, to go north, as Mr. Fleischman informed us we must, to find such sheep as we were in search of. There are but few sheep in the southern part of Germany, and those not fine. We went into Saxony before we stopped to look. We went most of the way by railroad; found good railroads, and very carefully managed. As a general thing, they run cars slower than they do in this country. They have watchmen stationed at short distances from each other, to see that the track is kept clear. On some of the roads, they have four classes of cars. The first is fitted up in fine style, and is dear; but few ride in them; the saying has been used, I believe, that "none but princes and fools ride in them." The 2nd are good cars, generally have spring seats; the 3d are comfortable. More go, probably, in the 3d, than any other class. On some of the roads they have a fourth still, where the villages are thick. These are to accommodate the poor people that wish to travel from one village to another. They have no seats; they crowd them in thick, like cattle.

After we got into Saxony, we stopped and began to take excursions into the different parts of the country; found some good Saxon sheep; better than any I ever saw in this country. But we found nothing that would answer our purpose; there were two great faults in them—feeble constitution and light fleece. But there has been a change in some of these flocks in a few years past, in their manner of breeding. They are now breeding for folds of the skin. There is marked difference in every year's crop for the last five years. Those that are five or six years old, are smooth, tight-skinned, while many of the young sheep are covered in folds from the nose to the tail. The wool upon these folds is as fine as on the other parts of the body.

The stables for the sheep are built of brick or stone, are very warm. They are high between joints, as near as I could judge, from 12 to 15 feet; the sheep are kept very close in them, and the breath from the sheep makes them very warm—many of them so warm that it was uncomfortable to go into them, although it was quite cold at the time. The stables are not well arranged for convenience; there is but very little room in the upper loft for storing fodder. The fodder for the sheep is generally stowed in a barn on one side of the yard. Very little attention is paid in Europe to the construction of anything for labor saving. The sheep establishments are generally built in the form of a square; the stables for the stock on two sides; the barns for storing fodder on one, and the dwellings for the sheep-master and his assistants occupy the other. There are some very fine stables for sheep, that cost large sums of money. As a general thing, they keep their sheep very poor. Through Germany they feed large quantities of straw, not much grain, but a good many roots.

After looking at several of the best establishments and flocks in Saxony, we went on into Prussian Silesia, as Mr. Fleischman said that would be the place where we should find such sheep as we were looking for. We went as far east as Breslau. Breslau is the greatest wool market in Europe. The system they have adopted has proved very advantageous to them, and I think it would be useful in this country, if practiced. The wool dealers buy the wool from the grower; then each fleece is sorted into different parts according to its quality, which enables the manufacturer to get just the kind of wool he wants. They say it has proved profitable both to the dealer and manufacturer.

We went over Silesia pretty generally, but found only one flock that came up to what we were looking for. We bought from that flock 40 ewes, which were all that we could get at any price. The sheep which this flock was raised from, were imported from Spain in 1811—were of the Infantado and Nigretta stock. They have been kept pure, and bred with great care. They have always had two things uppermost—constitution and weight of fleece. These sheep have more good points than any that I have ever met with before. They are clothed in wool from the nose to the hoof. The wool is thickly set, and an even surface. They possess what all good breeders in Germany consider very essential—a perfect wool staple. The wool hair being of the same size all the way—the wool as shick on the out end as it is near the body. They are very careful about keeping up the thickness of the wool, in order to get the greatest weight of fleece. They prefer wool about the medium length. If they get it too long it becomes thick and flabby, parts on the back, and they lose in weight. They say it is much easier to get length than it is to retain thickness. The sheep will shear as much according to the weight of carcase, I am sure, as any sheep I ever saw. There is no waste space on them, and the wool is quite fine for Merino, and very thickly set. The wool is very clean and white on the inside, but quite dark on the outer ends.

Men take care of the sheep, and women take care of the cattle. The time we were there, they were preparing the land for spring crops. There were as many women at work in the fields, as men. They were spading the ground. Half the land, as near as I could judge, that they cultivate, is spaded, and mostly done by women. I have seen, sometimes, as many as 20 in one company, spading. They bring most kinds of domestic animals into requisition to help them do their work, and couple them together in a very incongruous manner, perhaps an ox and a cow, horse and cow, donkey and cow, man and donkey, harnessed together to work in the fields.

In Saxony and Silesia I saw very little wheat, but large fields of rye. Very little wheat bread is eaten in Germany. The poor people live principally on soup and bread, made of rye ground up without bolting, and beer. They will have their beer if nothing else. It is astonishing what quantities of beer are drunk. They are truly, as has been said, a nation of beer drinkers. Almost every estate has a brewery and wind-mill attached.

If it was not for the currency, I would like travelling in Germany better than any other part of the continent. Every little state has a different currency, and different coins, and what you get in one, often will not pass in the adjoining one. The people are very kind and hospitable, and appear very honest. In general, I found excellent hotels, good atttention, and much cheaper bills, than in any other part of Europe that I visited.

We brought our sheep 400 miles by railroad, to Bremen, where we shipped them on board the steamship Herman. We were 19 days from Bremen to New-York—lay three days at Southampton, England. While stopping there, I took an excursion into Devonshire, to see some of the noted stock of that county. They certainly have some fine stock—that is, cattle and coarse woolod sheep. I purchased two from Mr. Turner—a six-year-old cow and two-year-old heifer. Mr. Turner is one of the best breeders in England.

I was disappointed in the horses that I saw in England. They were too slim, light of limb, small round the waist, with too much of the blood of the race-horse in them for endurance. But two of the best mares I saw while in Europe were from England. They were at Von Thaer's (a son of the celebrated agriculturist of Germany.) He imported them for breeding. They have some good business-horses in Germany.

In conclusion I would say to those who have good Merino sheep, that they have nothing to fear from Europe, as they have but few Merinos, and what they have are worth more there than here. In general, choice animals are worth more there than here; they have learned to appreciate the value of them. I believe I have looked the sheep countries over pretty thoroughly. My instructions from Messrs. Hammond, Hall, and Remilee, who were associated with me in the enterprize, were not to spare time and money in looking, and if I could find any better sheep than we had here, to buy. Those instructions I endeavored to carry out. Yours, W. R. Sanford. *Orwell, Vermont, August 1st,* 1851.

Comparative Analyses of Soils.

Analytical Laboratory, Yale College,
New-Haven, Conn., Aug. 25, 1851.

Messrs. Editors—At the recent meeting of the American Association for the Advancement of Science, held in your city, I brought forward a number of papers embodying results obtained in my laboratory during the past year. Some of these are very interesting to the agriculturist, and in the present and one or two succeeding letters, I propose to give a short account of them. By the aid of Mr. Crane, my first assistant, I have made within a few months, some examinations into the nature of the results to be obtained, by analysing soils in such a way, and from such localities, as to institute direct comparisons in their composition.

One of the first points taken up, for instance, was to ascertain how near to the average constitution of a field we should get, by analysing samples taken respectively from different parts of its surface. It has been urged by many, in view of the small quantity employed for analysis by the chemist, that such a quantity could not represent the composition of the whole soil. To test the value of this objection, I had two samples of soil taken, one from each end of a six acre lot. This soil has been formed by the decomposition of a basalt or trap rock, and is of a red color. It is in the town of Farmington, State of Connecticut. By way of still farther comparison, another soil formed from the same rock, was obtained from a hill side not more than a quarter of a mile distant, and finally still another, from a point about equidistant between the two, where a red sandstone slate rock or shale appeared upon the surface. The following table therefore affords us ground for several useful comparisons:

	Basaltic or trap-soil Farmington.			Red shale soil.
Amount in 100 lbs. or per centage of	No. 1.	No. 2.	No. 3.	No. 4.
Alumina and iron,...............	10.88	9.51	8.65	15.34
Lime,.........................	0.25	0.31	0.22	0.07
Magnesia,......................	0.77	0.87	0.72	1.73
Sulphates of potash and soda,...	0.70	1.12	0.72	2.22
Soluble silica,..................	0.24	0.17	0.13	0.12
Insoluble matter,...............	82.58	81.68	82.07	75.89

Of the trap-soils, Nos. 2 and 3 are taken from different parts of the same field as described above, and it will be seen at once that they bear each other a striking resemblance. There is in no case a difference of one per cent between any two of the constituents, and in most instances they really correspond very closely; as in the two derminations of lime, where in 100 lbs. of soil, there is only a variation amounting to 9-100 of 1 lb. In the magnesia the difference is but 5-100, and in the soluble silicia still less, only 4-100. If now we look also at the first column, we see that in the first line, there is shown to be more iron and alumina than in the other cases, owing to a small additional quantity having been dissolved by acid. With this exception, the other substances agree quite closely with those in Nos. 2 and 3. The three examples then show that these trap soils have a character of their own, that they correspond with each other in the main, and are in many points even almost identical, whether taken from the same field, or from somewhat distant localities. This point settled, let us turn our attention for a moment to the red shale soil No. 4, which it will be remembered, came from between No. 1 and Nos. 2 and 3.

Here we are at once able to perceive a most decided difference. The quantity of iron and alumina is nearly 5 per cent greater than in No. 1, where it is largest among the other three, while that of lime is less than ⅓ of what is found in any of the others. Magnesia on the other hand, amounted to fully twice, and potash and soda to three or four times as much, as in any other case. In soluble silica there is no very strking difference. Here, then, from the relative position of these soils, we have quite a remarkable instance, and one which pointed out very distinctly the benefit of analysis. These soils, lying so near together, vary in most important particulars; under long cultivation, with any especial crop, they would be exhausted in different degrees. The table also shows by its comparison of the three trap soils, that their character is the same, and that a fair sample made by mixing small quantities from different parts of a field, would give a reliable average result.

I will add another instance in support of this assertion; that soils from the same rock agree pretty closely. In the following tables, Nos. 1 and 2 are specimens of stiff blue clay, taken at considerable distances apart, on a hill-side near Albany. No. 3 was a white laminated clay, also quite stiff, coming from a lower layer in the same neighborhood.

ALBANY CLAYS.

Per centage of	No. 1, blue.	No. 2, blue.	No. 3, white.
Iron and alumina,.... ...	13.32	13.76	17.01
Lime,..................	4.87	4.83	4.31
Magnesia,...............	2.47	2.69	2.71
Potash and soda,.........	3.67	3.16	4.80
Soluble silica,............	1.68	1.19	0.47
Insoluble matter,.........	70.40	69.16	67.63

The agreement between Nos. 1 and 2, of these clays, is even more decisive than was seen between the trap soils of the first table. The determinations, in fact, run so closely together, that many of them might be taken for corresponing ones on the same specimen; the differences between the lime, magnesia, alkalies and soluble silica, do not in either case exceed the half of one per cent. The white clay, too, does not vary so much from the other two as might have been naturally expected, from its very different appearance. A considerably larger quantity of iron and alumina is dissolved, but this is the only very essential difference. The lime and magnesia are nearly the same, and the general coincidence is such as to bring the three soils distinctly within the same class.

Another example of well marked characters in soils, is to be found in two from the vicinity of New-Haven, analyses of which are herewith given. These soils were upon the extensive deposit of sand and gravel drift which fills up many of the valleys in Connecticut and Massachusetts, forming light, and in most cases, rather poor soil. One of these was from a field actually worn out by cultivation, and the other taken from a bank at some distance beneath the surface; the intention being to ascertain if cultivation had not reduced the surface to the same condition as the unaltered subsoil.

SANDY SOILS, NEW-HAVEN.

	No. 1, worn out.	No. 2, native.
Iron and alumina, ...	6.66	5.12
Lime, ...	0.10	0.08
Magnesia, ...	0.35	0.28
Potash and soda, ...	0.38	0.45
Soluble silica, ...	0.34	0.26
Insoluble matter, ...	90.46	91.87

These analyses are quite interesting, from the fact that they show a surface soil so perfectly worn out by a miserable system of cultivation, as to be scarcely better in any respect, and in one or two *actually inferior*, to a sample taken from the center of a sand bank. A man who can farm his land no better than this, can lay no claim whatever to a true understanding of his business; he has been short-sighted for himself, and for those who are to succeed him. This soil originally light, needed brining up in place of exhausting, needed constant watchfulness lest its scanty stores should fail. A soil formed from serpentine and chlorite rocks, found in the immediate vicinity of these sands, gave quantities of magnesia and lime greatly larger than those cited above, showing it to possess a widely different character. The results were incomplete, and are therefore not inserted here.

The above are not intended as examples of complete analyses, but have been carried only so far as would serve to illustrate the object for which they were intended. No determinations were made of phosphates, sulphates, or chlorides, excepting as they are included with the alkalies. Such determinations would have given additional interest to the results, but were not indispensable, and would have involved great additional labor.

These analyses prove very satisfactorily, some of the ideas which I had previously entertained; indeed it is necessary to say that my success was more decided than I had expected. The general agreement between the samples from the same field, and between those from the same formation, is as marked as the decided disagreement, when we come to compare these with those from any other formation; even a very inexperienced eye, could scarcely fail to note these points.

We may conclude then, first, that so far as these results go toward forming a rule, the soil from the same field, unless there is some marked and visible change in certain parts, will agree in composition, and that a sample taken from a mixture of five or six shovel-fulls from various parts of the field, would afford a reliable mean result. We may in the second place, feel quite certain that when no disturbing causes have operated, the soil from one formation will show marked differences, when its composition is compared with that from another formation. The analyses given establish these two points, and also show in the two last instances, that land may be reduced nearly to a desert by unskilful cultivation. They lead the way, moreover, to some further illustrations and remarks on this subject of soil analyses; but these I must, from want of space, defer until my next letter. Yours sincerely, JOHN P. NORTON.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Culture of Fruits---Familiar Hints.

It is not necessary, at the present time, when almost everybody is planting fruit trees, to go into a long argument to show its advantages. A continued and most convincing proof is furnished by the fruit itself,—whether it be from the single loaded plum or apricot tree in the pinched up kitchen yard of the townsman,—or the broad orchard bending under the myriads of delicious specimens on the spacious grounds of the farmer.

But an inquiry is made—much oftener than it is rightly answered—" how shall we manage our young trees, from the moment they are received from the nursery, so that they may speedily come into profitable bearing?"—or, " how long will my young trees have to grow before I shall get fruit from them?"

As the time required for their fruiting depends very greatly on their management; while the quality, even more than the amount yielded, is influenced by the treatment they receive, it is well worth some pains and labor to give them every advantage.

Is it not strange, that while every man knows so perfectly well that half-starved cattle cannot possibly thrive, so many expect young fruit trees not only to thrive and grow, but to yield good crops, when not receiving even a tenth part of the attention that is bestowed on a half-neglected herd of cattle? Crowded, in the first place, into small holes, dug into hard soil; and afterwards suffered to be overgrown and choked by weeds and grass, they are quite sure to refuse the injustice of re-paying with a good crop, such negligence, not to say utter starvation at the roots. It is not difficult to see plenty of just such trees, of the apple, for instance, in passing through some parts of the country, of which the annexed portraits are tolerably fair representations. (Fig. 1.) Now, it is nothing whatever but this neglect that has reduced them to such a condition;—with good cultivation, they might have been just such healthy, vigorous, handsome, prolific specimens as these below, (Fig. 2,) which

Fig. 1.

happily are becoming more and more common every succeeding year.

In reply to the inquiry as to the best treatment for trees,—The first thing is to get a good soil. To set good trees on bad land, is like building a house without a foundation, or like sitting down to dine at empty dishes; there is nothing to support the growth of the tree—no food to supply it with proper nourishment. If, therefore, the soil is not already such as to yield a crop of sixty or seventy bushels of Indian corn per acre, it should be made so, if trees are expected to flourish in the finest manner. The first thing is to obtain sufficient *depth* of soil,—to enable the roots to extend themselves freely, and to hold moisture without drying up in protracted drouths. This may be obtained by digging very large holes, say eight feet in diameter, and a foot and a half deep, and filling them with rich earth. But a better way is to plow the whole surface to that depth, and to enrich it well by manuring. A common plow will descend six or seven inches; by passing another plow in the furrow, that is by trench-plowing, the soil may be loosened to ten inches or a foot. But by means of a good subsoil plow in the common furrow, a depth of fifteen to eighteen inches may be attained. Now, to work the manure down to that depth, and make the whole one broad deep bed of the richest soil, it must be first spread on the surface evenly after the whole has been well subsoiled, then harrowed to break it fine and mix it with the top soil, and then thrown down by a thorough trench-plowing. For although the trench-plowing can hardly be worked a foot in depth of itself, yet after a good loosening with the subsoil plow, it may be at once extended down a foot and a half. If this is done in the fall, and another good plowing given in spring, the whole will be in fine condition for the reception of trees. Does this seem like a great deal of cost and labor? It is the very cheapest way of getting fine crops of the best fruit, for the way in which strong, long, and healthy shoots will run up even the first year will seem like nothing short of magic; and the short time in which such trees will begin to hang out their ruddy or golden treasurers, and the size, beauty, and richness of the fruit afforded from such an orchard kept well cultivated during its early years, will astonish those who have never seen any but slip-shod culture.

Fig. 2.

After a tree is well set out in such an admirably prepared soil, the subsequent treatment although of the greatest importance, is very simple. It consists merely in keeping the soil mellow, by repeated stirring, and preventing the growth of any vegetable for several feet from the tree, whether it be weeds or the growth of a crop. A *hoed*-crop is however admissible, as being next best to clear mellow ground, because most of the surface is still kept well stirred during the operation of tillage. A *sowed*-crop, grass, or weeds, is ruinous to young trees.

These hints, we are aware, are not new to many; but it is often better to repeat and old and important truth, till all practice it, than to search only for what is new.

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Stocks for Pears—Grafting Roses.

Owing to the prevalence of leaf blight in pear seedlings, I was induced to make some experiments on thorn and mountain ash, the result of which may be interesting to those cultivators who cannot obtain healthy pear seedlings. I found that the Tyson, Osband's Summer, Madeleine, Julienne and St. Ghislain, were exceedingly thrifty on the English whitethorn; and entirely failed on the Washington thorn, with the exception of Osband's Summer, of which I have trees of this season's growth, from three to four feet high, quite stout, and some of them considerably branched, so much so as to afford five or six stocks of buds of good size. On Mountain ash—Fondandte d'Automne, Duchesse d'Orleans, St. Ghislain, and Osband's Summer, were remarkably fine. They were all splice-grafted on the roots of year old seedlings, the splice tied with candle wicking, and waxed with common grafting wax, laid on warm with a brush, thus entirely excluding the air, and which also enabled them to be handled with more safety to the graft than if whip-grafted.

Roses of several varieties, such as the common Black Moss, Gen. Duboury, and indeed all the Bourbon's I tried, succeeded admirably by splice grafting—and then placing five or six in a pot filled with charcoal, leaf-mold, and loam, say one-eighth charcoal—then put in a *moderate* hot-bed, the frame being covered with *cloth* instead of glass. In about three weeks they were nicely united, and made fine saleable plants in the autumn of the same season. E. S. *Macedon, 8th mo. 30th*, 1851.

(*Continued from page* 337.)

ciety. Our notices in this department must be postponed till next month.

Dairy Hall showed a fair display of dairy products, of the quality of which we are unable to speak. In the same department were excellent samples of seed grain of various kinds, flour, meal, corn-starch, &c.

Mechanics' Hall was well filled, and contained many useful articles of late invention or introduction, which we shall notice hereafter.

Manufacturers' Hall was less attractive in reference to the extent, variety, and quality of the articles exhibited, than this department has been on previous occasions.

Floral Hall consisted of an elliptical tent 80 feet wide and 140 feet long. Its interior arrangements were designed in excellent taste. Next to its outer circumference, and extending round the whole tent, was a series of terraced shelves, for the exhibition of fruit. These shelves were very closely filled. Next to this was the broad passage for the spectators. Inside of this passage was the series of tables, parallel to the fruit tables, for the flowers. These presented a very rich display. The interior area was occupied with a large mass of rockwork in the centre, interspersed with ferns, cactuses, &c., surmounted with a massive rustic tree, supporting baskets of fruits, flowers, grapevines, &c. On each side of the rock-work were high terraces of shelves densely filled with a rich display of greenhouse plants from several contributors.

Among the fruits which excited most attention, were the fine exhibition of peaches—many specimens of Crawford's Early measuring from 10 to 11 inches in circumference. Bartlett and Stevens' Genesee pears were exhibited possessing great beauty; and there was a profusion of fine apples. The following were among the principal contributors:—

Wm. R. Smith, of Macedon, N. Y., exhibited a collection of large glass jars, containing cherries, strawberries, peaches, &c. beautifully preserved in a fresh state, sealed air-tight. Bissell and Hooker of Rochester, very fine bunches of Black Hamburgh, Golden Chasselas, and other exotic grapes, grown in a cold house; several other collections of foreign grapes grown in a similar way, including Muscat of Alexandria, Royal Muscadine, Hamburg, &c., show the progress of the culture of these varieties. Among the principal contributors, who all furnished extensive collections of fruits, were Benjamin Hodge, of Buffalo; Thorp, Smith & Co., of Syracuse; J. J. Thomas, of Macedon; W. F. and E. Smith, Geneva; and from Ellwanger & Barry, C. J. Ryan, Bissell & Hooker, N. Hayward, S. Moulson, and others of Rochester and vicinity. John Morse of Cayuga Bridge, exhibited 43 sorts of pears, in which we observed very fine specimens of Beurre Bosc, Flemish Beauty, and Pratt. Ellwanger & Barry had more than a hundred sorts of pears, embracing some fine and rare sorts. One of the best collections of plums was from E. Dorr, of Albany.

Among the floral contributions, we observed extensive collections from Wm. Webb and B. Hodge, of Buffalo, John Donnellan and C. Powis, of Greece, and King and Dawe, Ellwanger & Barry, A. Frost & Co., S. Moulson, Wm. Webster, and C. J. Ryan, of Rochester. A beautifully constructed floral alcove was presented by A. Frost & Co.; a large and beautiful box of flowers, of some 200 sorts, by Mary Devoe, of Aurora, Cayuga county; and a very striking and singular conceit,—a finely proportioned pony, five feet long, surmounted by an equestrian "bloom-er," the whole composed of flowers quite tastefully arranged, was exhibited by L. E. Smith, of Saratoga county, New-York.

The Address was delivered by Hon. **Stephen A. Douglass**, of Illinois. It was devoted mostly to practical subjects, and contained many interesting suggestions. It was listened to by a large and attentive audience.

Sales of Stock.—Sales of live stock took place at the Fair to a large extent. We have notes in reference to many of these, but for want of space are obliged to postpone them till next month.

Rot in Potatoes—Yellows in Peach Trees—Disease in Buttonwood Trees.—The *Mass. Plowman* gives the opinion of its editor, that insects are the cause of the potato disease. It is not pretended that the insect has been discovered, but it is his "*belief* that by the aid of powerful glasses we may yet be able to discover something as fatal to the potato as the squash-bug is to the squash." Is the editor aware that all parts of the potato plant have been often examined by the most "powerful glasses" in existence, without finding any such insects? But the editor claims to reason from analogy, and contends that what "some people call 'the curl'" and the "yellows" in peach trees, is caused by insects, and that the blight or disease of the buttonwood or sycamore tree has a like cause. He says the worms "work in the fore part of the season and eat off the leaves—when the worms cease to work, the tree is again clothed with a new suit, provided the soil is rich enough to furnish the means. If not, the tree dies after a few successive robberies of the leaves, as all plants will." Now, for ourselves, although we have examined both the buttonwood and peach tree with some attention, we have never found any insects which could produce the maladies alluded to, and such has been the result of the examinations of others. Will Mr. **Buckminster** have the goodness to send us specimens of the insects, with an account of their habits, which occasion the diseases spoken of in the buttonwood and peach tree? He thinks "there may be new creations of insects at the present day," and says, "we know that new varieties of insects make their appearance as the country grows older." Will he be so good as to tell us what "new" insects have either been "created" or made their "appearance?" In this matter, we believe "there is nothing new under the sun."

Large crops of Indian Corn.—It is gratifying to perceive that the soil of the "Old Colony," though never of the most fertile character, is able to produce crops of Indian corn which can hardly be exceeded, and even rarely equalled by any part of the country. The agricultural society of Plymouth county (Mass.) gave premiums last year for this crop as follows: Morrill Allen 145, G. W. Wood 119, Nathan Whitman 109, Spencer Leonard 106 bushels per acre. Dixon Bryant 100 bushels per acre on three acres. Leonard Hill 94 bushels per acre on two acres.

New-York State Fair.

The eleventh Annual Show and Fair of the New-York State Agricultural Society, which took place at Rochester on the 16th to 19th of September, may be deemed to have fully equalled any previous display. All the departments, with the exception of "Manufacturers' Hall," were creditably filled, while in several branches the competition was unusually extensive. The number of visitors was larger than on any former occasion. A comparative idea in regard to the attendance at this and the two exhibitions last preceding it, may be obtained from the receipts, which for 1849 were $8,144,55; for 1850, $10,465 61; for 1851, 11,956.11.

The number of people who entered the grounds during the four days, must have exceeded 100,000. The crowd on Thursday, the first of the "shilling days," was absolutely immense, so covering the whole field, which comprised nearly thirty acres, that it was with difficulty a person could pass from one part to another.

The location was about a mile and a half south of the city, on the west bank of the Genesee river, and from the elevation of the land, commanded a very good view of the surrounding country, including the beautiful grounds of the Mount Hope Cemetery, on the opposite side of the river. The field, though somewhat rough in its surface, was on the whole well adapted to this object. The soil was sufficiently moist to prevent the rising of much dust till towards the close of the exhibition, though the clouds which rose from the neighboring road, proved a considerable annoyance when the wind blew towards the field.

The general arrangements were admirable, both in design and execution, and reflected much credit on the officers and others, under whose direction and supervision they were made. The buildings were well planned and well situated, and in construction and finish, were, in some instances, a decided improvement on those of previous exhibitions. So far as we are acquainted, the good order and system manifested in all the departments of the exhibition, gave entire satisfaction to the numerous competitors. The various superintendents were active and accommodating. Their duties were very arduous, and they are entitled to many thanks for their vigilance and untiring exertions.

The occasion has passed very pleasantly, and in its ultimate results, will prove largely beneficial in aiding the cause of improvement in agriculture and the other industrial arts. The general expression among the masses, was that of satisfaction. We heard little complaint of want of accommodations, or of extortion, or imposition. On the contrary the liberality of the citizens of Rochester, in opening their doors and providing food and shelter for the thousands, has been frequently spoken of in terms of high praise.

The weather was highly favorable—the change from the intense heat of the previous week, being very fortunate and agreeable. The clear sunshine was, however, even with the moderate temperature, somewhat oppressive to those animals, which were obliged to stand fully exposed from morning to night for four days in succession. Nearly all the cattle were placed in this situation. A few of the exhibitors erected awnings over their animals, which greatly promoted their quiet and comfort. Would it not be well for the Society to provide this protection in future years? The expense would not be great. Cotton cloth would serve for the canopy, and if properly taken care of it would last many years.

We have only room at present to speak of the exhibition in brief and general terms, and must leave to another occasion more particular notices.

Horses.—This interesting department was unusually full, and comprised good specimens of the different classes. In the class of Blood Horses, the competition was quite limited—indeed we saw but three or four animals which appeared, strictly, to belong to this breed. We noticed Mr. Burnett's well-known Consternation, and the horse Prior, bred in Virginia, now owned by Mr. Baker, of Otsego county; also a beautiful four-year-old horse by Consternation, owned by Geo. Hammond, of Rome.

Of Roadsters, or light carriage horses, there were some excellent specimens of the Morgan stock, among which we noticed the fine horse Morgan Hunter, owned by Ackley and Gilbert, of East Hamilton, Madison county,—General Gifford, owned by Mr. Ingersoll of Lodi,—Major Gifford, now kept at Penn-Yan, formerly owned by Mr. Mason, of Jordan. The colts, by Gifford Morgan, shown by Mr. Gilbert of East-Hamilton, and Mr. Wier, of New-Hampshire, as well as those by General Gifford, owned by Mr. Dorr of Scottsville, Monroe county, received much commendation, as did also a colt, by Black-Hawk, owned by Mr. Remington of Sennett.

The class of Draft Horses, comprised the largest display we have ever witnessed. Many of the best were the progeny of an imported English horse called Sampson, or the "Robinson horse," formerly owned by John Robinson, of Wayne county. This stock of horses is highly prized by many for the purposes of farm labor. A pair of mares, sisters, six and seven years old, weighing 2,600 lbs., owned by Mr. Hale of Lyons, Wayne county, attracted much attention, not only for their size, but for their symmetry and apparent strength.

There were several horses in this class from Canada. One called Clyde, of the Clydesdale breed, from Toronto,—which was exhibited at our State Fair at Buffalo,—was on the ground, accompanied by three of his progeny, from four to six years old. They were all of the color of the sire, grey, and closely resembling him in shape. The old horse is very large—we were told he had weighed upwards of 2,000 lbs.—but he is quite active, and trots with a lighter step and more apparent ease, than many horses of ordinary size.

The matched and single carriage horses, were not, on the whole, superior to several previous exhibitions. We noticed a pair of handsome sorrels, owned by Gen. S. M. Burroughs, of Medina, and a pair of well made and well moving chestnuts, owned by Mr. Baker, of Rochester.

Cattle.—The show of breeding stock in this department was very large—perhaps larger than at any former show of the Society; but the fat cattle and working oxen were not as numerous as at some former shows.

The Short-horns were well represented from the herds of Messrs. Morris, Sherwood, Chapman, Becar, Allen, and others in this State, besides several fine specimens from Canada, owned by Messrs. Fergusson, Wade, and others. Mr. Fergusson's roan bull, Halton, and his red cow, and Mr. Wade's roan bull, "American Belted Will," were among the very best animals in this class, and it was the opinion of many connoisseurs that Mr. Fergusson's cow was the finest Short-horn cow on the ground. A bull exhibited by Mr. Green, of Winslow, Maine, had many good points.

The Herefords were principally from Mr. Sotham's herd. He exhibited a considerable part of his stock, without selection, and as a matter of course, some of them were "out of condition;" but a judge could see that there were several very fine animals among them. A two-year-old bull of this breed, owned by Gen. Harmon, of Wheatland, has excellent symmetry and quality.

The Devons were in larger force than at any previous show, and although some of the animals exhibited in this class were evidently of spurious character, there were many very fine ones, which were no disparagement to this beautiful and popular breed. The imported bull (bred we believe by Quartly) shown by Mr. Wainwright, of Dutchess county, is a splendid animal, combining almost every point which constitutes perfection. Several of the cows and heifers from the herds of Messrs. Van Rensselaer, Morris, Wainwright, Stevens, Beck, Garbutt, Vernon, Washbon, Baker, Hamlin, Sheffer, and others, were excellent. Mr. Gapper, of Canada, also exhibited several good Devons. One of his cows, own sister to the noted bull Major, (who was bred by Mr. Gapper,) was one of the very best of her class, and his young imported bull has some very superior points—especially the general fullness and levelness of his back.

There was but little competiton in Ayrshires. Mr. Prentice exhibited nine head, among which was his beautiful young bull, Dandy 2d, and several choice cows and heifers. A bull was also exhibited by Wm. Somerville, Ellicottville, Cattaraugus county. There was also an excellent cow owned by W. A. Mills, of Mount Morris, Livingston county.

Several Alderneys, or Jerseys, were exhibted by Mr. Colt of New-Jersey, one of which was the imported cow which was shown at the last State Fair at Albany. Mr. Colt also exhibited again, his imported Hungarian cattle, which, from their novel characters, were regarded with so much curiosity last year. They have greatly improved in general appearance, and increased very much in size. They both indicate great tendency to fatten, and the bull has good shape, and evidently possesses great strength and constitution. It is to be hoped that these cattle will receive a fair trial, in regard to their usefulness for our purposes.

The most interesting specimens among the fat cattle were three spayed cows, five and six years old, nearly full blood Devons, owned by Geo. Sheffer of Wheatland. They were all remarkable for fatness and symmetry, and one of them, (the smallest of the three,) exceeded any other animal we have ever seen, in the amount of high priced meat she carried, in proportion to the coarse parts and offal.

Sheep.—The exhibition of sheep was the largest and best we have ever seen. The Saxons were represented by good specimens from the flocks of Messrs. Church, of Oneida county, Colt, of Monroe, and Scoville, of Connecticut. The reputation of all these flocks is well known. The Merinos were very numerous. The stock known as the "French Merinos" was shown by Gen. Harman, of Wheatland, Mr. Hall, of Gaines, Orleans county, Dickinson, of Victor, Ontario county, and others; and good specimens of the Spanish stock were shown by Messrs. Burritt, of Burdett, Tompkins county, Cook, of Lima, Livingston county, Dart, of Harpersfield, Delaware county, and others.

There was an extensive competition in South-Downs, and most of the lots were of fair quality—several first-rate. Those belonging to Mr. Morris, of Fordham, Westchester county, Col. Sherwood, of Auburn and Mr. Wakeman, of Herkimer, attracted much attention. Several of Mr. Morris's and Col. Sherwood's were obtained from the celebrated English breeder Jonas Webb.

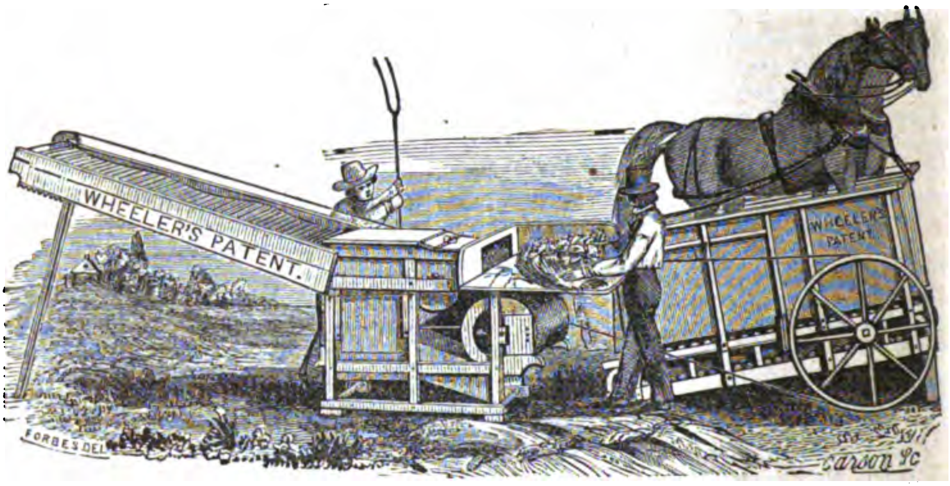
The Long Wools were quite numerous, but for the chief excellencies in the specimens exhibited, we are sorry to say we are indebted to our Canadian brethren. The lots offered by Mr. Gapper, of Thornhill, Mr. Wade, of Port-Hope, and Mr. Miller, of Pickering, were good specimens of Leicesters, and Mr. Miller's ewes, might almost be taken as standards for that breed. Some fair Leicesters were offered by Messrs. Peck of Lima, Rathbun, of Springfield, Otsego county, McDonald, of Warren, in the same county, Horbury, of Columbia, Niagara county, Swailes, of Sodus, and others in this state.

Swine.—The show of swine was quite large, but in general, the stock was by no means of the best quality, being coarse, bony animals, which would requre high feeding, and too long a time to reach maturity. Some fine Suffolks, and those of other blood, were shown by Mr. Morris, of Fordham, and Wm. Hallock, of Rush, Monroe county. Some good hogs of somewhat larger size, (Leicesters,) were shown by Turner Brown, of Chili, Monroe county, and Wm. Webb, of Darien. A Chinese sow,—evidently of a very prolific stock, as she was suckling 18 pigs—was shown for exhibition only, by Mr. Delafield, the President of the Society. The stock indicates the tendency to fatten for which the Chinese swine have always been noted, but it appears to have been lately introduced into this country, and has not yet received that refinement of shape, which it is susceptible of attaining under the direction of a skillful breeder.

Poultry formed a large display. A great portion of the fowls were of the large Asiatic tribe, known under the various names of Malay, Java, Cochin-China, Shanghae, &c.; some of the best of which were offered by B. B. Kirtland, of Greenbush. Some good Dorkings were shown by L. F. Allen, of Black Rock, and D. P. Newell, of Rochester. Some good Silver Polands, or Silver Top-knots, were shown by F. W. Collins, of East Bloomfield, Ontario county; and some very good Creole fowls, by Alfred Stevenson. Handsome Bremen and White China Geese, were shown by L. F. Allen of Black Rock; wild turkies, by L. K. Haddock, of Buffalo.

Implements.—The display of agricultural implements was quite as large, and embraced a greater variety and wider competition, than any former exhibition of the So-

(*For conclusion, see page* 335.)



WHEELER'S COMBINED THRESHER AND WINNOWER.

The Farmer's Note-Book.

Wheeler's Combined Thresher and Winnower.

This machine was invented and patented by **Thomas B. Wheelr**, of the firm of **Wheeler, Melick & Co.**, Albany. As the name purports, it is designed for threshing and cleaning grain at one operation. The winnowing apparatus may be fitted to powers of either one or two horses; the cut represents the latter, and with this power the machine is capable of getting out 150 bushels of wheat, or 300 bushels of oats in a day. The number of hands required depends much on the facilities for working the machine, the convenience of feeding, and the room for disposing of the straw. We saw it in operation lately, in threshing mowed oats, which were not in the best order, and it worked at the rate of 40 bushels an hour—cleaning the grain in a thorough manner—the number of hands employed being four men and two boys.

The cost of the whole apparatus, as above represented, is $200; the additional cost on account of the winnower, is $55. Further particulars will be learned from the advertisement of Messrs. **Wheeler** & Co.

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Harvesting Indian Corn.

Eds. Cultivator—I notice in the Cultivator for September, under the head "Harvesting Indian Corn," an implied call for an experiment I made about 12 years since, in which I was highly gratified.

I made an experiment on about one and a half acres, (I should judge,) by topping the stalks on half the piece—divided by plats of four rows each, commencing with two rows topped, then left four untopped, then topped four, and so on, through the piece, ending at the last side as I began, with two rows untopped—so that just half of the corn was topped and half left untopped, and the division so made as to leave no difference in the quality or quantity of corn in either part. The rows were north and south.

It is so long since I made the experiment that I am unable to give the details as to the time of cutting, the exact amount of difference, &c. The above piece was topped, (or half of it) as above described, at the usual time of topping in that section of country, Franklin county, Mass., on the east of the Connecticut river. The corn was planted on my land, by a neighbor, upon shares, and his share was half, and the reason of my making this experiment was, I was convinced that corn lost more by topping than by cutting up at the bottom, while my neighbor belived otherwise. When the corn was ripe, we gathered it in the same day, husking it in the field, weighing the ears as we put them into the wagons, and the result was, I had from my half of the piece, divided as above described, and left to ripen in the order of nature, 1400 lbs., while the owner of the other half, which was topped, had only 1112 lbs. from his part, making a difference of nearly 300 lbs.

It is proper to mention that we were satisfied that his corn was a little the dryest, but deduct 50 lbs. of the overplus on that account and it leaves more difference than the value of the tops he took off.

I had another piece of about an acre in the same field, but planted myself and having no partnership about it. About 10 or 12 days after my neighbor had topped his part of the former piece, a frost came, and supposing it to be so severe on the corn that it was best to cut it up at the bottom, I went into it with my help and cut about half of that piece, on one side. We found on the drying off of the frost and dew, &c., that the corn was not as badly injured by the frost as we had anticipated, so I left the remainder to ripen as before, in the order of nature.

When we gathered the corn, we took the same method to ascertain the proportional quantity, by weighing the ears, and found about half the difference in quantity in favor of the part standing, that we found on the former piece. It may be proper here to remark that we cut it up a little earlier, in relation to its ripened condition, than is commonly done when cut up at bottom, and somewhat later than the usual time of topping.

Now from the above two experiments, we obtain two important items of information. First, the most corn will be produced by letting the crop ripen in the order of nature; and second, that by cutting up at the bottom, although a greater molestation or derangement of nature's operations, yet we get more grain than by topping. Now as to the value of the stalks topped, compared with those cut up at bottom, I have not any positive knowledge, but will venture an opinion that stalks cut at the bottom are worth about double what they would be topped, after taking all the bearings into the account, such as getting them clean off the land, making manure of the refuse, and the extra trouble of getting the topped stalks out of the corn ground, &c. I am sensible that cutting up at bottom makes heavy work, which some, who are on the watch-tower for a quarrel with labor, complain of, but when the crop is well stooked up, and gets suitably dry for storing, it is a much shorter job to get in a field of corn in that way, than it is to pick and husk in the field, or even to pick it with the husks on and carry it into the corn-house or barn, or any other building that may be designed for such uses. And then it is out of the way of bad weather, and may be husked out more at one's leisure, than when standing in the field. Oliver Moore. *Kensington, Sept.* 1, 1851.

Extremes—Comparative Value of Carrots.

We notice in an "official" report of a discussion by the American Institute Farmers' Club, Mr. Meigs stated that "carrots are equal, bushel for bushel, to corn or oats," as food for animals. Prof. Mapes, speaking on the same subject, said,

> "As to carrots, parsnips, &c., experiment has distinctly shown that in feeding for pork, the roots make it for four and a half cents a pound, and corn for twelve and a half cents a pound. Campbell of Jersey has fully demonstrated this, and so have I."

We regard these as random assertions. We think highly of the carrot, and have often recommended its culture; but even gold may be too highly estimated, and we cannot understand how carrots can be "equal," in nutriment or value to corn or oats, bushel for bushel. True, it may be better for an animal to receive a certain proportion of carrots, to the exclusion of an equal proportions of the grains mentioned. But this no more proves that the carrots are "equal" to the grains, than the fact, that it would be better for a man to eat a pound of potatoes and a pound of meat, rather than two pounds of meat, proves that potatoes are "equal" to meat, pound for pound. Both facts simply show that the animal system is benefitted by the *mixture* of food mentioned.

We should like, to see the details of the experiments which "distinctly show" that pork can be made from carrots and parsnips at four and a-half cents per pound, and that when made from corn, it would cost twelve and a-half cents per pound. We do not deny that pork may be made from roots at the price named, but we cannot see why it should cost twelve and a-half cents per pound to make it from corn. We know there are not many accurate experiments on which we can rely as positive proof, on this subject. From the results of some trials made in Essex county, Mass., a few years ago, it was concluded by a committee of the Agricultural Society of that county, to whom the subject was referred, that a bushel of corn would make twelve pounds of pork. Supposing the corn to be worth sixty cents per bushel, this would make the cost of the pork five cents per pound. Prof. Johnston, in a late lecture in Scotland, said, "the Chinese and Berkshire pigs are said to produce ten pounds of bacon for every imperial bushel of corn [grain] they consume." But, as before remarked, there is an advantage in mixing food for animals, and the experience of many farmers teaches that pork can be made to better advantage by mixing grain or meal with vegetables or fruits, than by either separately.

Agriculture and Horticulture in Greene Co., N. Y.

Eds. Cultivator—I was very much interested in the "Sketch of the late Judge Hayes," in the August No. of the Cultivator—especially in that part of it which sketches his plans and mode of agriculture. There is so much good sense in his management, that I concur with his plan, and have substantially practiced it for years past. I have but a small farm of 30 acres; five of it I have set out, mostly with fruit trees, and nursery trees, of which I have a great many choice varieties, as well as a fine flower garden. For many years past, I prepared a pen for my hogs, which is a hard pan bottom, slightly sloping south, at the lower fence of which I set up edgewise, flat stones settled down to the hard pan, to prevent leakage of manures, and like Judge Hayes, I make it a depot of all surplus weeds, potato tops, straw, and many large kinds of weeds that our highways are filled with; and to these I sometimes add slaked lime and leached ashes, and all the manure and bedding of one of my horses, and from this source I usually get from 25 to 30 loads per year, of the best manure. I also have a compost hollow in my yard, where two cows and another horse are kept, which adds a rich dressing for my lands.

Some four years since, I added to my little farm about three acres, on one acre of which the refuse tan-bark of an old fashioned tannery had been spread, including the lime, had been mixed with the earth; and from this I drew many a load of rich dressing for my strawberry beds, and around my grape-vines and roots, and some in my flower garden, and around quince trees, gooseberries and currants, which I cultivate in single stalks, kept free from weeds or grass. These dressings produced large gooseberries, particularly the imported "Roaring Lion," of Scotch origin, and which have measured over six inches in circumference the longest way, and five the other way, and the imported English Sweet Williams are nearly as large. I have a small jar of them preserved in the purest alcohol, reduced one half by pure water, and sealed up.

I now have over one hundred quince trees that are bearing, nearly all in single standards, and of the apple kind. They often have weighed a pound each, and bear annually. Currants trimmed in single stalks, often grow five and eight feet high, and the white, red and black, are much enlarged, and remain good till frost comes, by reason of keeping the ground clean, and well dressed with compost, and the plants either staked up with hemlock stakes, or trimmed up along picket fences; and they produce large quantities of large stems. So it is with the common black raspberry, which I have transferred from the field, and have staked up with the Red and White Antwerp, and keep the ground clean.

Last fall, on clearing up about three acres of new land to sow some Mediterranean wheat, I found that a swale of about one-fourth of an acre was filled with a rich black mold, that had been perhaps 50 years accumulating, from decaying leaves, and the running of a small spring that spread around on the flat. In some places it was from one and a half to two feet deep, and while carrying manure, and cultivating and plowing, for sowing the wheat, I drew 30 two-horse waggon loads of this mold to my garden and fruit yards, and added some lime, ashes, leached and unleached, and where the ground was clayey I added fine sand, washed into heaps on my premises in a great freshet. My vegetable garden and a sloping field of fruit trees, of about three-fourths of an acre, I dressed with this and other manure, and plowed it up in ridges in the fall, so as to enable the frosts of winter to pulverise and make it fine for early planting in the spring. A sufficient portion of that 30 loads, I preserved in heaps near my fruit yards and garden, and two small meadows set with trees, to be used the past spring to dress them, and put round the trees, flower-beds, shade trees, shrubbery, grapes and strawberry beds, as well as over tulip bulbs. And at no season have I ever had so fine a growth of tulips, crocuses, crown-imperials, double and single Michigan roses, double and single Yellow Huron roses, and the Baltimore Belles' and other varieties, and at this time my garden is alive with double and single sun-flowers, from black to white, as well as the Silesian Gold-flower, which blossoms twice a year, and often three times. At strawberry time we feasted on some half-dozen varieties of fine strawberries, the last of which were the Ross' Phœnix, Boston Pine, the Beehive and Hovey's Seedling. The last one was larger than any of the others. I have other fine kinds, set last spring, obtained from Marshall P. Wilder's garden, that I am satisfied will prove fine another year. This rich feast was followed by rich treats of raspberries of different kinds, which are still bearing.

I obtained last year, some fine dwarf pears on quince standards, that blossomed finely this year. They were imported from France by Thorp, Smith & Hanchett, of Syracuse. Of 25 which I got of them, my neighbors got all away from me but ten. And of over 30 of similar kinds, that I got this spring from Mr. Wilder's garden, and 20 more from Thorp & Co., nearly all were taken by purchasers who were glad to get them at from 50 to 56 cents each, because they were fine; and such a fine growing season as we have had, has, in connection with the dressing around my fruit trees, put them forward, and they are more fully loaded with fruits of numerous varieties, (over one hundred,)—especially my plum and quince trees, are overloaded, and apples, pears and peach trees, well filled. My choice cherry trees were young, and just beginning to bear, and the birds picked most of them this year. I have over 500 fine grafts—mostly whip grafted—and a good many pears, whip grafted on small, thrifty quince sprouts, that are growing finely, and have several thousands of apple, pear, peach, cherry, and plum trees, that are in fine order for budding. The constant rain keeps a good flow of juice under the bark, and all yet budded bid fair to live.

Excuse me for so long an epistle. But when I think of the ease with which our farmers could fill their gardens and fruit yards, with the *healthy* and delicious kinds of fruit, I can hardly stop describing them, and the easy mode of cultivation. They seem to me to be designed for the health, pleasure and happiness of the honest yeomanry of our rich agricultural "Empire State." A. M. *Durham, August* 10, 1851.

"Chess will turn to Wheat."

This maxim has been handed down from generation to generation, but the *present* day is one in which many facts are demonstrated by way of *experiment*, rather than by the traditions of our fathers.

Last fall, I picked out, head by head, of the *Hutchisson* wheat, three bushels, which I sowed on *new land*, a part of which was rather wet. It was sowed late—fore part of October—and produced a light crop—having all the circumstances favorable to the growth of *chess;* yet when I came to harvest it, there was not a head of chess to be found in the *piece*.

And now, farmers, if you wish to raise a crop of chess, I advise you by all means to sow chess, and not calculate on making it out of wheat, for unless you have better success than I have had, you will *certainly* fail of a good crop. I am expecting to sow 20 acres of new land this fall, and should I receive the blessing of a good crop, I hope to be able another year to furnish a few farmers in this vicinity with the pure Hutchinson wheat, and nothing but wheat, and that, too, which I shall not be afraid to warrant will *not* turn to chess if sowed on new land. SOLOMON LEONARD. *Berkshire, Tioga county, N. Y., 12th August*, 1851.

Crops in Seneca County---Stage for Cutting Wheat.

EDS. CULTIVATOR—Having finished my wheat harvest, and being now about finishing the hay, I write you a few lines about crops, &c. Our wheat crop in this immediate neighborhood, I think is a very good one; mine, I know, will turn out about the same as last year. My hay crop is the largest I ever cut—in fact it is immense, and I presume it must be the same throught Western New-York. Oats are also very good; barley is said to be excellent; corn, I think, from what I have seen, cannot make a good crop.

I have noticed of late a strong desire in your correspondents, and also in those of other agricultural papers, to induce farmers to cut their wheat before it is ripe. I am well aware that cutting wheat in a raw state makes the best and hansomest sample; but I notice some advise cutting it *twelve days* before it is ripe. Now it would be absurd to cut wheat in this country twelve days before it is ripe—indeed the farmer had better have it destroyed by a hail storm, than cut it twelve days before ripe, because in that case he would save the expense of harvesting green wheat, which would be almost worthless, as far as the grain was concerned. As the greater part of the wheat in this neighborhood is cut by reaping machines, there is no danger of farmers cutting it twelve days before it is ripe, as they could not do it with machines until nearly ripe.

I notice a great deal said about saving from shelling when cut green, but let these men bind sheaves a week or two, and they will see that wheat cut even eight days before ripe, will shell in handling, more than when just so hard that the grains will not bruise between the thumb and finger.

COVERING DRAINS.—In directions about covering tiles, I notice the joints are to be covered with a *sod, shavings or straw*. I have laid on my farm over fifteen miles of tile drains. I have a double tree, nine feet long, and I put a horse on each side of the drain, and plow the earth right on the tiles, without any covering, and I have never had a stoppage, excepting where the tiles were too small to contain the water.

I have purchased 10,000 tiles to lay this fall. A neighbor laid 12,000 last spring, and several others are going to drain this fall. The low price of wheat will be a hindrance to draining, but nothing pays as well as this business. We have another tile machine started in this neighborhood, and Mr. Whartenby, at Waterloo, is also getting another put in operation, also another kiln and sheds for drying; but the increasing demand would, I think, take more if they could be got. One of my neighbors intends laying 15 or 20,000 this fall and next spring.

In covering tiles by the plow, care should be taken that there is no stones large enough in the first furrow to break the tiles, and the first furrow should be a light one.

PLOWING FOR WHEAT.—I notice that one of my neighbors is mowing his pasture fields, with the intention of plowing them up for sowing with wheat this fall, with one plowing. I have no doubt that he may have a good crop, *provided* we immediately get good *soaking* rains, so that it can be *deep* and *thoroughly plowed*; if not, my opinion is that there will be more timothy than wheat next season. Although we have had many rains to retard hay-making, and even damage part of the hay, we have not had any *soaking* rains to wet or soften clay soils. JOHN JOHNSTON. *Near Geneva, Aug.* 6, 1851.

Advantages of Drainage.

The advantages of drainage are becoming more and more conspicuous as the system is adopted and extended. This will continue to be the case till the increased products and profits of cultivated land, will be augmented to an amount which is at present beyond estimation. Col. SHERWOOD, of Auburn, lately informed us that he had, within about a year, purchased 14,000 drain-tiles, from the manufactory of Mr. WHARTENBY, of Waterloo. He has laid nearly all these, and their benefit is already so obvious, that he intends to lay more as fast as they can be obtained. Col. S. showed us a field of wheat, on a part of which tiles were laid last fall. The superiority of the crop on the drained portion, was very manifest. He related an incident illustrating the effects of drainage in bringing the soil to a workable condition in spring. On a part of a field having rather a tenacious soil, he laid tiles just before the setting-in of last winter. The last spring was wet and backward, and much ground could not be plowed till very late. He intended this field for barley, the sowing of which he was anxious to do at the proper season, but was obliged to defer operations on account of the undrained land. At length plowing was commenced, and the furrows were run in such a direction as to cross both the drained and undrained portions of the field. On passing from the one to the other, the plowman was at once struck with the difference in the condition of the soil—that on the drained part breaking up sufficiently dry and "crumbly," or friable, and the other being stiff and "clammy." The plowman observed, also, that the draft of the team was plainly less when plowing the drained part than on the other. The difference in the condition of the soil was obvious when the seed was sown, and a corresponding difference was doubtless exhibited in the yield of the crop.

Flax-Cotton and Linen.

There appears to be good reason for believing that the discoveries and experiments of CLAUSSEN and others in regard to the spinning and manufacture of flax by machinery, will result in important improvements. Fabrics have already been produced in England from cotton prepared by M. CLAUSSEN'S process, specimens of which, and of the cotton in various states, have been sent to this country. An editorial article in the New-York *Tribune*, speaking of those articles, says "The simply dressed fibre is as clean, as fine, as soft, as strong, as easily spun, as any Sea Island cotton, and is said to cost but nine farthings (less than five cents) per pound in England. That it would produce a fabric every way equal to the best bleached shirtings or sheetings, we have no doubt." In relation to the flax-cotton fabrics, it is said—"they are at once elegant and serviceable, especially a pantaloon stuff closely resembling satinet." And of the specimens of dyed flax-cotton, it is said they are "perfect, proving the capacity of this staple to take the most delicate tints as well as the most vivid colors."

It should be here stated, that the prepared flax possesses decided felting properties, and may be formed into fabrics in combination with wool. Specimens of these fabrics, consisting of flannel and broadcloth, of various colors, and said to possess remarkable strength and beauty, have been exhibited by M. CLAUSSEN at London.

Mr. M. B. BATEHAM, of the *Ohio Cultivator*, writes from London that M. Claussen has disposed of his right to use his process in the United States, and that arrangements are in progress for the production of the flax-cotton here. Mr. B. suggests that farmers who are growing flax for seed, should save the straw, after the seed is threshed out, in anticipation of its becoming valuable. He states that the machinery which M. Claussen uses for reducing the straw to a suitable condition for market, is very simple, consisting merely of a series of iron rollers, propelled by horse or other power, which so crush and break the woody portions of the straw, that by shaking or "scutching" it can be mostly separated from the fibre, and is made ready for the chemical process which prepares it for spinning.

While the experiments above alluded to, have been going on abroad, others of a not less interesting nature, have been made in our own country. Dr. O. S. LEAVITT, of Maysville, Ky., has invented a process for spinning unrotted flax and hemp by machinery. By this process he states that "linen fine enough for the best shirt linen can be produced from the unrotted hemp, while the unrotted flax will be run to the very finest numbers."

It is not designed by this process to bring flax and hemp into a condition resembling cotton, but to preserve the peculiar qualities of those articles in the fabrics produced from them. The inventor is sanguine in the belief that "linen can be produced as cheap as cotton goods of the same fineness when raw cotton is not less than seven cents per pound." He says,

> "There can be no doubt but, by Claussen's process, a valuable substitute for cotton can be produced from flax, and these two processes render all the flax-growing world independent of the cotton-growing. By neither process is flax wanted in its rotted state, but in the very condition most convenient for the farmer, and in which he can produce the greatest quantity."

Dr. L. states that a charter has been obtained from the legislature of Kentucky, for the incorporation of the Maysville Linen Company, and that the practicability of his process is about to be tested on a large scale.

The following is a summary of the principal points claimed to have been gained by Dr. L.'s invention:

1. The use of unrotted hemp and flax, being mowed or cradled, and not pulled, thus saving the great expense of rotting and breaking.
2. The ability to run the coarsest and most rigid hemp or flax, to the finest numbers.
3. The saving of the heretofore expensive heckling process, using a machine which removes from the *shives* the lumps and short fibres as they pass through.
4. Making not more than half the tow usual.
5. Securing uniformity and certainty of full strength of fiber, and greater consequent durability of the fabrics.
6. Rendering the bleaching remarkably cheap and simple, where it is now difficult.
7. Doing away entirely with the offensive smell and unwholesome air, now a source of such universal complaint in flax mills.

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French vs. American Merinos.

Eds. Cultivator—As there has been much interest manifested by the community of late, in relation to the "French Merino Sheep," and as the late importations increase that interest, I would like to know the intrinsic value of those sheep compared with the Spanish or American Merinos. And perhaps we can come at in no better way than by asking a few questions, which I wish you or some of your correspondents to answer. First, what did the pure blood French Merino wool sell at per pound, to the manufacturer, last year? or, in other words, what is its relative value compared with the American Merino? Second, what is the relative weight of the two classes, taking the feed into consideration? Third, how do their constitutions compare under the same care, and with the same quality of food? A Subscriber. *Vergennes, Vt., July* 4, 1851.

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Advantages of Paring and Burning Soils.

Mr. Pusey, (*Jour. R. A. S.*) states, that a piece of very stiff clay—so stiff that it appeared to be "clay untempered by any grit," and which packed so hard in dry weather that it could hardly be dug with a pickaxe—was, in 1846, drained and breast-plowed, and a part burned over—the other being left on account of wet weather. It was sown with oats, and the produce was as follows:

Where the sward was burnt,........	6 qrs., or	48 bus.
Land unburnt,....................	2	16

The same land was burnt again immediately after the oats were taken off; part was burnt and part left unburnt, on account of wet weather as before. The burnt land yielded a good crop, the unburnt a very poor one. It was again pared and burned, and sowed to wheat. The yield on the part which had been thoroughly burnt for three years, was 42½ bus. per acre.

Mr. Pusey also relates another experiment. A portion of a field was dressed with burnt clay, and a portion left undressed. It was sown to wheat and the result was as follows:

Soil simple,......................	37¾ bus.
Dressed with 80 yards burnt clay....	45¼
80 yards do., and sheep folded,.....	47¼

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Excursion to Paris.

Paris, August 9, 1851.

Eds. Cultivator—On the invitation of the Prefect and Municipality of Paris, the Commissioners, Executive Committee, Jurors of the Great Exhibition, and the Lord Mayor and a very few of the aldermen of London, left on the first instant, on an Excursion to Paris. I was fortunate in securing a place in the first train with my luggage. We started at 9 A. M., and passed rapidly to Folkestone, mainly through the county of Kent. The land on the route was rather of a light character, and the crops not very good. In fact, taken together, as poor as any I have seen, except in the county of Durham. Hops were frequently seen—appeared very well. The poles are much shorter than ours, and the vines much smaller. They looked healthy and vigorous, and a good yield is anticipated.

We arrived at Folkestone at half past 11, and immediately proceeded by steamer to Boulougne. The steamers on the route are small open boats—the cabins not large enough to hold more than 50 persons—the residue of the passengers are accommodated with a deck passage—much like working one's passage on the tow-path of the canal. The distance from Folkestone to Boulougne is about 29 miles. Soon after we left the harbor the little boat began to roll about, and the passengers, many of them, gave indications that they were out of their element. Wash-bowls, which are provided in abundance, were soon in requisition in every part of the boat, and a large portion of those on board were sea-sick, and looked the very pictures of despair. Among the number was the Lord Mayor of London, who behaved very undignifiedly for the chief magistrate of the city over which he presides, and within whose limits he allows no *soldiers* to be quartered. But these things were soon ended. In two and a half hours we were landed at Boulougne, where we found a large company of Monsieurs, with soldiers in blue coats and red pantaloons, waiting for us. The Lord Mayor of London being the lion of the party, was received on landing, by the Prefect of Boulougne, and had to make a speech in reply to an address made him, which he managed to do quite cleverly, though it smacked somewhat of *salt water*. We were then escorted to the railroad station, where a hot breakfast was prepared, sufficient for all. It was prepared in good style, abundance of fruits, such as peaches, apricots, plums, pears, strawberries, cherries, melons, &c. We did ample justice to the breakfast, and speeches, and wine, and hurras for the angle terres, My Lord Mayor, &c., were very abundant. After about two hours delay, we started off in two trains for Paris—the

Lord Mayor leading off. We passed through a level country to Amiens, about 100 miles. The whole country, as far as the eye could reach, was under cultivation. The crops generally, were quite light—comprising almost every variety of grain. There were no division or other fences on the route; the land cultivated in small plats by the peasantry, and the variegated fields of every hue, presented a beautiful appearance. There were no farm dwellings to be seen, as with us. Occasionally we passed a small village, with thatched houses, and narrow winding streets, where the cultivators of the land reside, many of them having to go miles, daily, to their work. Their implements are quite rude—the plow in general use, and in fact the only one I saw, was like the one in the Agricultural Museum, from Canada.

On the marsh land on the route, of which there was considerable, we observed immense quantities of peat, cut up, and in many places pits of it smoking, which is used for fuel, and in some instances, I presume, for manure. On many of the small grass plats in the fields, cows were feeding, tied to stakes, on others sheep, in care of a shepherd and dog. Very few pastures were seen, where there was any considerable number of cattle grazing, and meadow land is very rare. The whole country was under crops—wheat, oats, barley, buckwheat, rye, clover, red, scarlet and trefoil, sanfoin, hemp, potatoes, poppies, Swedish turneps, mangel wurtzel, &c.

The land, evidently, on this route, requires deeper plowing, and much more manure. Occasionally lime was to be seen, prepared for the land, but generally the crops, from the shortness of the straw, and the light heads of the grain, gave evidence of a lack of proper culture. Much of the grain was being cut. A cradle with short fingers was in use. They cut with this towards the grain, as with the sickle. Women are employed in all varieties of work in the fields, and old men generally with them. Very few young men, comparatively, are in the fields. They, I presume, are in the army of the Republic, to keep the people in subjection.

When we arrived at Amiens, which is quite a large town, we found a great crowd gathered, and a large party of military in ferocious looking caps, and abundance of hair upon their faces, who were regaling themselves at a table which had been liberally prepared for my Lord Mayor. We alighted, and prepared to do justice ourselves to the viands which were left, and several of us were in time to do our part to the remains of the feast, but the bell rang for the cars, and we hastened to our seats, and *remained for half an hour*, while the soldiers demolished the whole of the repast, wines and all! We thought this was rather rich for La belle France! but we took it as a very fair joke, and passed on. We arrived in Paris about 12 at night, and having taken the precaution to engage rooms some days previous to the fete, we found comfortable quarters, which very many were unable to obtain. The next morning Paris was opened up to us, with all its beauties and splendid palaces, churches, &c.

In the afternoon, or rather evening, 7½ o'clock, we had the dinner served up to some 500, in a style, that few can equal. The room itself was one of the most splendid I have ever seen—most gorgeously decorated, with splendid paintings, statuary of busts, lighted by nearly 3,000 wax lights. No account can do justice to it. The dinner was most admirably got up, enough for all, a plate for each, and 300 French waiters, who did not wait for a call, but anticipated your every want, and studiously furnished to each the very best provided. After the dinner was concluded, a speech from the Prefect of the Seine, answering to our Mayors, was responded to by Lord Granville on behalf of the Royal Commissioners, and one from the President of the Municipal Council of Paris—was responded to by the Lord Mayor of London, and an adjournment was had to the other rooms of the hotel, where several thousands were assembled, to listen to the music of a concert which came off as soon as the dining room was arranged for that purpose. The afternoon of the next day, the Palace of Versailles, its ground, gardens and fountains were all opened to the guests and the public. The Palace founded by Louis XIV, is an immense structure, furnished in a manner the most costly and elaborate that can be imagined. Every room was ornamented with superb paintings of the Kings, Marshals, Constables, &c. of France, from its earliest history, down to Louis Philipe. The great victories of the Empire, from the earliest dates to the conquest of Algiers, and the battle of Navarino. The paintings of Napoleon's reign are among the most attractive, though one of the Algerine battles struck me as a picture that would bear study better than almost any other in this great collection. The palace is so extensive, and the rooms so numerous, that it took upwards of three hours to pass through it and catch even a glimpse of its many paintings and statuary. They have our American officers and statesmen of the Revolution—Washington, Hamilton, Franklin, &c.. and the surrender at Yorktown is admirably given, with portraits from life of the French and American generals and officers.

The fountains were let to play at a cost of 10,000 francs. They are scattered in different directions over the entire grounds through the avenues of trees, very tastefully arranged, and more than a thousand jets were throwing up columns of water altogether, producing a scene the *tout ensemble* of which probably cannot be seen elsewhere, the world over. I could not but reflect as I sauntered through the palace, the garden and the grove, who built these splendid palaces, and who furnished the means. They were erected to idolize a man, who has passed away for ever. They were erected by the toil and sweat and blood of the people, who in those days were esteemed as fit instruments to live and toil and die merely to gratify human pride and ambition. May that day never arrive when our country shall be trampled down by the despot, erecting the monuments of his triumph upon the ruins of our free institutions!

After returning to town in the evening, we walked through the grounds and gardens of the Tuilleries, Champs Elysees, &c. Here we found, apparently, the whole population of Paris, engaged in every kind of amusement. Theatres, circuses, mountebanks, gaming tables, and lighter amusements, were all in full operation, open to all, and the people enjoying, to all appearances, this motly scene right well. On returning, we went through the Boulevard, the great fashionable promenade of the city. The most fashionable part of this promenade is the Boulevard des Italiens. Here loungers of both sexes seat themselves and pass most of the day. The gaiety of this spot, until after midnight, exceeds all description. Chairs are placed in front of the splendid Cafe's and Restaurants, which are let at two sous each. As we passed along we found throngs of gentlemen and ladies seated around little round tables sipping their coffee or wine, while crowds were pressing along on the wide sidewalk, and carriages rolling noiselessly, almost, over the nicely McAdamized streets. The streets are brilliantly lighted, as are the cafes, and the places of resort, and the whole presented an appearance the most enchanting that can be imagined.

The next day was a reception at St. Cloud by the President of the Republic. This is a spacious palace, similar in its character to Versailles, though not as extensive, though equally rich in its decorations, paintings, &c. and connected with which are many interesting recollections. It was the favorite residence of Marie Antoinette, Josephine, Maria Lousia, Napoleon, and Louis Philippe. The grounds are very beautifully laid out—fountains are particularly arranged, and play admirably; and the whole presents a combination of luxuries that would enable one, who otherwise was rightly prepared for it, here to enjoy himself to his heart's content, and also, to bless others in the free use of these splendid walks, and gardens, &c.

A dinner was served up here for 2,000, but only 500 could get into the orangerie, when it was laid out, so that great scrambling was exhibited for the feast which was long delayed, and it was more than two hours before the most modest were privileged with eating even a morsel. But as all things must have an end, this was ended late in the night, and the wearied out visitants, returned within the walls to slumber.

At each avenue out of the city are gates, at the Barriers, as they are called. There guards are stationed to receive the tolls for everything, almost, that pass into the city. So at Versailles, as we approached the barrier, being in a private carriage, we were stopped and asked if we had any thing liable to duty, before we passed in. I believe this custom exists in all the principal towns in the kingdom.

The next day I visited with Mons. Vattemare, some of the public offices, connected with the Bureau of Commerce and Agriculture, and found the heads of the departments very attentive, and anxious to learn much about our county. B. P. J.

What causes the Difference?—The *North British Agriculturist*, speaking in reference to the difference in the quality of the flesh of different breeds of animals, says,

As regards the Black-faced Cheviot, and South-Down breeds of sheep, the West Highland, and Angus breeds of cattle, the flesh of these, if not more nutritious is at least palatable. The Short-horns, Herefords, and Devons, when fattened at a proper age produce beef of excellent quality, but is often deficient in that finely flavored taste which distinguishes such breeds as the West Highland. How much of this is owing to the nature of the breeds, or to the food upon which they are reared, are questions which we think have not received that attention from scientific men which the subject demands.

University of Albany.

Department of Scientific Agriculture.

The Trustees of the University of Albany, convinced of the vast importance which they should attach to the subject of improvement in Agriculture, have made this an object of special attention in their first steps toward the organization of a complete Scientific School.

Nearly all of our more intelligent farmers are now sensible that their profession is one which should be studied; that it is a profession in which the specially educated man occupies the same position of advantage that he does in every other pursuit of life. The old cries of opposition to all theories, and of condemnation against all books, are now fast yielding to an eager desire for instruction, and to at least a partial belief in the efficacy of science. Indeed some farmers go much farther than this, in expecting results that are at present certainly not within the range of possibility, and that there is little reason to suppose will ever be realized.

Instruction then is needed to supply what is called for by one class, to confirm the still doubtful minds of another, and to sweep away the too extravagant expectations of a third. It is also needed to enlighten the minds of a class, still it is to be feared exceedingly numerous, who look upon all progress with incredulity and suspicion, and who frown indignantly upon the idea that any one can impart new light to them in the way of their own business. Under the influence and the practice of such men as these, a great portion of our land is now deteriorating under cultivation, and will continue to deteriorate, until it reaches at last the condition of certain tracts in some of our older States, where the crop does little more than return the seed sown. Every year of the system now pursued by vast numbers of our farmers, increases by an immense amount, the labor and the expense that will be necessary in restoring the land again to a proper state of fertility.

That this evil is felt, that it is endured with impatience, is attested by the great numbers of active and influential societies for the improvement of Agriculture, in so many parts of the country; by the increasing patronage extended to agricultural books and periodicals; by agricultural surveys, past or in progress; and by the numerous efforts toward the establishment of schools where scientific agriculture shall be the end and aim of study.

The reasons which operate so strongly in recommending Albany as the proper place for the location of a great Scientific School, tell with redoubled force when the organization of the Agricultural department is considered. The capital of the greatest, most wealthy, and most powerful State of the Union; a State, too, more fully alive than any other to the cause of Agricultural improvement; the nucleus of the most powerful and influential Agricultural society of the Union, a society whose annual shows bring together a greater concourse than those of any similar society in the world; the most desirable and accessible position with regard to the New England States, and on the great lines of communication North, South, and West, it presents a combination of advantages that may be properly called unequalled.

In view of such arguments as these, in view of the often expressed desire of the people of this State for at least the commencement of an institution which should have some special reference to the wants of its farming population, the Trustees have decided to go as far during the present season, as their means and the short time available for organization will allow.

They, therefore, announce a course of Lectures by Prof. John P. Norton, now for some years in charge of the Department of Scientific Agriculture in Yale College. Prof. Norton will commence his course in the first week of January, and continue it during the ensuing three months. This course is designed especially for the practical man, and the subjects are intended to be presented in such a manner as to be perfectly intelligible to those who have never before attended to such studies. A complete and detailed outline of the general connections between science and practice will be given, and will be fully illustrated by experiments.

The substances of which the Soil, the Plant, and the Animal consist, will be shown and their properties described. The Soil will call attention first, with regard to its composition in different localities, its resulting fertility or barrenness, the means of improving it by drainage, the composition and effect of manures applied, and the most economical methods of fertilization.

To this will succeed the Plant, with an account of its structure in various parts, its composition so far as our crops, common trees, and fruits, are concerned, with the various theories of rotation; in this part of the course the nutritive value of the different crops is dwelt upon at considerable length, and illustrated by very full tables.

To such statements a notice of the Animal economy will naturally succeed, prefaced, however, by two or three Lectures on butter and cheese, giving the most authentic theoretical and practical information on all points connected with their manufacture, preservation, &c. After this come the various theories of feeding and fattening animals, with references to numerous practical examples.

By such a course the various beautiful theoretical and most important practical connections, between the soil, the plant, and the animal, will be distinctly brought forward, and impressed upon the mind of the hearer. Recitations and conversational meetings will be held in connection with the lectures, for such as choose to attend them.

Prof. James Hall, of the N. Y. State Geological Survey, will lecture at the same time on Geology, and so much of Mineralogy as is necessary to the comprehension of his subject. This course will have especial reference to the bearings of Geology and Mineralogy upon agriculture, and other economical interests. The practical advantages of the connection of geological with agricultural science, will be briefly pointed out in the course by Prof. Norton; in this course these subjects will be more fully elucidated, and the student, aided by the State collection, and the very fine private one of Prof. Hall, will have an opportunity of obtaining such knowledge as will be of much value in after life, whatever may be his profession, and will besides be productive of infinite pleasure, as he may have occasion to visit various sections of our country. Geological and mineralogical information, when possessed, is always called into frequent action, and gives its possessor weight and influence in any community.

A course on Entomology, with special reference to the injurious or beneficial action of insects on vegetation, may also be expected. This course will be by Dr. Henry Goadby, formerly of the Royal College of Surgeons, London. This gentleman will be able to illustrate his course by a collection of specimens altogether unrivalled, and exhibited to the class by means of the oxy-hydrogen and the compound microscope. The advantages to be derived from such a course are entirely obvious, and have, moreover, been hitherto quite unattainable in this country.

Arrangements are in progress which will enable students to attend a course on Engineering and Surveying, a knowledge of which subjects would prove highly valuable and also remunerative to every practical farmer.

Prof. Cook, Principal of the Albany Academy, will deliver a course of lectures on Elementary Chemistry, to such students of this department as may desire it; the course to be both experimental and practical.

It would seem that any practical man must see the advantage of attendance upon such a course as has been dwelt upon in the foregoing portion of this circular. Science is brought forward and inculcated, not to supersede practice, but in its aid. The information given is upon points which are really of vital importance, a knowledge of which ought to be looked upon as absolutely essential to every farmer. These Lectures, too, come at a period of the year when comparatively little is doing on the farm, and may thus be attended without neglecting any material interest.

The importance to a young man of thus residing for a time within the atmosphere of a literary institution, can scarcely be overestimated. He comes in contact with others who are also bent on improvement, and has almost unlimited access to books; he learns to think for himself—to see that a practice is not necessarily right because it is old; he becomes favorably disposed to the adoption of every useful improvement, and the whole circle of his ideas and intelligence is permanently enlarged; he makes his profession an interesting study, not a mere routine of hard work, and while better paid for exertion, as superior well-directed knowledge always is, he takes a higher rank in society, as a man understanding his own business better than those who have not enjoyed like opportunities.

It is intended to offer free tickets to the courses on Scientific and Practical Agriculture, on Geology and Mineralogy, on Entomology, and probably on Engineering, Anatomy and Physiology, to two young men in each senatorial district of the State, the tickets to be at the disposal of the several Senators. The same privilege will be extended to each of the Colleges in the State, the students to be selected by the faculty of each College from the graduating class of the previous year. It is hoped that this liberality may be continued in subsequent years, that in this way sixty-four young men may be annually aided and sent out to all parts of the State, to disseminate the valuable information which they have obtained. The tickets for the Agricultural Lectures will be $10; for the Geological $10; for the Entomological course $5. All are payable in advance, but the student only attends such as he may select.

The price of board in respectable families varies from $2 to $2.50 per week, exclusive of washing. Two or more young men, by clubbing together, can hire a room respectably furnished, for the purpose of lodging and study, for fifty cents each per week, and can furnish themselves with food, fuel, light, and everything except washing, at a total expense of from $1.37½ to $1.50 per week in winter.

For farther information apply either to Prof. John P. Norton, New-Haven, Ct., to Prof. James Hall, Albany, or to B. P. Johnson, Esq., Secretary of the N. Y. State Ag. Society, Albany.

Another circular, in pamphlet form, stating the general objects and plan of this University at length, will soon be issued, and can be had on application as above.

The annual course of Lectures in the Albany Medical College, commences on the first Tuesday of October, and continues sixteen weeks. The corps of Lecturers, eight in number, is full and able, the museum unsurpassed in this country, and the other facilities of a high character. The full fee for all the courses is $70. Graduation fee $20.

On the third Tuesday of December will commence the first course in the Law Department of this University, under the charge, as professors, of Hon. Ira Harris, L. L. D., Hon. Amasa J. Parker, L. L. D., and Amos Dean, Esq. With the advantage of one of the best Law Libraries in the country, of excellent teachers, and the holding of frequent courts, it is obvious that this Law School will offer unusual facilities to the student. The course will continue sixteen weeks, the fee for the entire term being $40. Full circulars may be obtained from Prof. Amos Dean, Albany.

PHOSPHATE OF LIME.—Mr. Joseph Harris, of Rochester, states in the *Genesee Farmer* that the mineral phosphate of lime used in England as manure, contains 50 per cent of phosphate, and is sold when prepared for use with sulphuric acid, at $25 per ton. The phosphate of lime at Crown Point, in this state, contains, as we have before stated, according to the analyses of Prof. Emmons and Prof. Norton, from 80 to 90 per cent of phosphate. This will afford a criterion of its value compared with the English article. Mr. Harris states that he has seen the prepared phosphate applied to various crops. Its effects were greatest on turneps—often increasing that crop four fold. Its effects on leguminous plants, clover, beans, &c., were beneficial; on wheat, but little benefit was derived. He suggests that it may prove of great use in tobacco culture.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from H., M. S. Bidwell, T. B. Miner, C. E. Rappe, F. Partridge, Solomon Leonard, An Inexperienced Fruit-grower, J. J. M., D. E. C. Braman, B. H. Andrews, A Young Observer, T. F. Eyre, J. W. Gray, Prof. J. P. Norton, B. P. Johnson, D. T., Oliver Moore, L. Durand, H. C. W., W. G. Edmundson, Samuel Logan, J. Conant, A. C. D., B., S., A Subscriber.

Books, Pamphlets, &c., have been received as follows: Transactions of the York county (Maine) Ag. Society, for 1847, '48 and '49.——Half a dozen new Chrysanthemums, from Geo. G. Thorburn, Esq., Astoria,——Muck Manual for Farmers, by Samuel L. Dana, 3d ed., revised and enlarged, from the publisher, J. P. Walker, Lowell.

Albany University.—It may not be known to all our readers, that an institution under this name was organized several months since. It comprises three general divisions: Law, Medicine, and a School of Theoretical and Practical Science, which includes Agriculture. In reference to the latter department, we publish a circular in this number, to which we invite particular attention. The department is under the charge of Prof. P. Norton, who, it will be seen, announces a course of Lectures on Scientific and Practical Agriculture, to commence the first week in January next, and to continue during the ensuing three months. We think this institution presents peculiar advantages for the acquirement of knowledge in all branches embraced by its general design. To the young farmer, especially, the School of Theoretical and Practical Science, offers facilities superior to any to be obtained elsewhere in the country. In addition to the lectures of Prof. Norton, it will be seen that the labors of Prof. Hall have been secured in reference to the economical illustration of the sciences of Geology and Mineralogy, and also the services of Professors Goadby and Cook, on Entomoly and Elementary Chemistry.

Astronomical Observatory.—We learn that nearly $20,000 have been subscribed towards the establishment of an astronomical observatory in this city. Of this sum, $10,000 has been generously donated by Mrs. C. E. Dudley. The land for the site has been given by Stephen Van Rensselaer, Esq. The institution will be placed under the charge of the distinguished astronomer Professor Mitchell, and will form a department of the Albany University.

Flour from Mediterranean Wheat.—We have received from Dr. Crispell, of Hurley, Ulster county, N. Y., a barrel of flour manufactured from this wheat. It has been tried in most of the various forms of cookery, in all of which it gives entire satisfaction. It evidently contains a larger proportion of gluten than ordinary flour,—in popular language it is "stronger,"—absorbs more water, and makes more bread from a given quantity of flour. The bread has a slight orange tinge, but is light, and of peculiar sweetness. It is only necessary that the miller and cook understand their business, for this flour to be highly esteemed.

Sheep from Africa.—Several papers have spoken of an importation of sheep from Africa, lately made by a gentleman in Salem, Mass. They are said to be distinguished by "the enormous fatness of the tail," &c. Some suppose they are of a race not heretofore described; but we see nothing in the description of them, indicating their difference from the broad-tailed African sheep, which were introduced into this country fifty years ago.

Lard Oil.—There are said to be in Cincinnati, forty manufactories of lard oil, which use 15,000,000 pounds of lard per annum. Of this, 5,120,000 pounds is converted into stearine, leaving 4,480,000 pounds, equal to 1,110,000 gallons of oil. The hogs of our western states will soon come into strong competition with the whales of the Pacific Ocean.

The Augusta Rose.—We have received a specimen flower of this new climbing rose, from Messrs. Thorp, Smith and Hanchett, of Syracuse. It is a fine rose, emitting an abundant and delightful fragrance. Messrs. T., S. & H. say—"It is a free bloomer in clusters of three to six, and the foliage is magnificent." We presume it will be an acquisition.

☞ Messrs. Jas. D. and Wm. H. Ladd, of Richmond, Jefferson county, O., have lately purchased in Vermont a valuable colt. He was bought of Mr. C. M. Fletcher, of Orwell, Vt.; was foaled May 17th, 1848; by Black Hawk; dam, a fine mare, showing much of the Morgan character, now owned by Mr. Wicker, of Ticonderoga, N. Y. We had the opportunity of seeing this colt as he passed through this city on his way to Ohio, and congratulate Messrs. L. on their success in obtaining an animal of rare excellence. We cannot doubt that he will prove an important acquisition to that section of the country.

The Vermont State Fair was held at Middleburry Sept. 10. It is spoken of as eminently successful. A notice of the Fair was expected from a correspondent, but has not come to hand. We shall speak of it more at length next month.

Wind-power for Saw-Mills—Machinery for making Castor Oil.—A correspondent in Texas wishes information in regard to the best application of wind as a motive power for saw-mills; also in regard to the best mode of manufacturing oil from the castor bean. Any person giving information on these subjects, through our pages, would confer a favor.

Albany and Rensselaer Hort. Society.—The annual show of fruits of this Society, took place on the 10th and 11th of September. It was one of the best exhibitions that has taken place since the society was organised. In plums and pears the display was very fine, and in flowers and vegetables there was a highly creditable show, considering the severe drouth. Some new varieties of plums were brought out, for two of which premiums were awarded. One of these was a light colored plum, produced from seed of the Green Gage, by by Isaac Denniston, and named "Dorr's Faverite." It is of excellent quality. Mr. D. also exhibited another seedling of the Green Gage, so exactly resembling the parent as to be pronounced identical. The other seedling for which a premium was awarded, was raised by Wm. Hallenbake, of Greenbush. It is of very large size, fully equal to the Red Magnum Bonum, which it very closely resembles in size, shape, and color, but is far superior in quality, and was considered equal to the best dark-colored plums.

Importation of Jersey Cows.—We are informed by Hon. B. V. French, of Braintree, Mass., that the trustees of the Massachusetts society for Promoting Agriculture, have lately imported from the Isle of Jersey, several fine cows of the Jersey, or Alderney breed. Mr. F. says, "I have seen one of them, which was purchased for Mr. Geo. R. Russell, of Roxbury, and I must say that this animal more than met my expectations. She is good tempered, and of handsome form."

Good Fleeces.—Mr. B. H. Andrews, of Waterbury, Ct., writes us that he has a flock of "Escurial Merino', sheep, (he does not tell the number,) which gave an average yield of "four pounds and nine ounces of clean washed wool per head." He states that the fleece of his pure "stock buck" weighed eight pounds and three ounces, and that when sorted by the manufacturer to whom it was sold, about two-thirds of it went into the grade called "pick-lock."

Wheat crop of Wisconsin.—While almost every part of the country has produced the present season a bountiful crop of wheat, we are sorry to learn that over a large portion of Wisconsin, the crop was almost an entire failure. This, in addition to the partial deficiency of the previous year, has involved many of the farmers there in serious difficulties—especially those who were in debt for improvements (buildings, fences, &c.) which they had commenced. They will doubtless find their accounts in directing their attention to a mixed husbandry, or a variety of products.

CRANBERRY VINES.

100,000 Cranberry plants—(suitable for transplanting at any place south of New-York, this fall)—and can be forwarded to any part of the Union safely packed. For sale by

Oct. 1, 1851—1t. F. TROWBRIDGE, New-Haven, Ct.

PEAR STOCKS.

THE subscriber has for sale at his nursery in Ferrisburgh, Addison county, Vermont, TWELVE THOUSAND PEAR STOCKS, from 10 to 24 inches high and of stocky growth. They can be sent by Railroad or Steamboat to any part of the Union.

R. T. ROBINSON.

Ferrisburgh, Vt., Oct, 1—1t.*

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road. from Columbus to Xenia. passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

VOMBAUGH & WHEELER,

Oct. 1—4t. Real Estate Agents, Columbus, O.

WALWORTH NURSERY.

IN addition to his usually extensive assortment of Fruit Trees, the subscriber has 8000 extra large size Apple Trees, mostly Roxbury Russet—also, a few thousand, 3 years old, Pears on Quince. Trees in large quantities, sold at very reduced prices.

T. G. YEOMANS,

Oct. 1—1t.* Walworth, Wayne county, New-York.

BLOODGOOD NURSERY,

Flushing, L. I., near New-York.

KING & RIPLEY, Proprietors, have on hand their usual large supply of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Gooseberry and Currant bushes, Grapevines, Hedge plants, Respberries, Strawberries, &c. Their Trees are of large size, thrifty growth and well rooted, and we can furnish nearly all the new varieties. Orders sent to them at Flushing, L. I., or 211 Pearl st., New-York, (where catalogues may be obtained gratis,) will receive immediate attention, and the trees packed with great care for transportation. Oct. 1, 1851—1t.

Fruit and Shade Trees.

FOR sale at Mount Ida Nursery, Troy, N. Y., a choice variety of FRUIT TREES, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds.

Currants, Gooseberries, Raspberries, Grapevines and Strawberries, of the choicest varieties.

Also a good variety of shade trees, consisting of Scotch Elm, English Sycamore. Linden, Horse Chestnut, Mountain Ash, Larch, Ash, Oak, &c. Evergreen Privet and Buckthorn, for Hedges.

Rhubarb and Asparagus Plants, &c. Catalogues and other information can be had of the Nurseryman. JOSEPH CALDWELL.

Troy, Oct. 1, 1851—1t.

FRUIT TREES.—SPECIAL NOTICE.

THE PROPRIETOR is desirous of disposing of a large portion of the Fruit Trees in his Nurseries at Hawthorn Grove, Dorchester, Mass., with a view to improvements on the grounds the coming season.

The collection of Pears, Cherries, Plums, and other Fruit embraces almost every approved sort of American or Foreign origin extant, and is scarcely surpassed in excellence or extent of variety.

Special Cultivation has been bestowed on the Pear, and many thousands of thrifty vigorous trees are now ready for transplanting.

Extra size Trees, with fruit buds, either on the quince or pear stock, and such as will soon commence bearing, can be supplied at moderate prices.

Also all the new varieties of Pears, Cherries, Plums, Raspberries, Currants, Strawberries and other fruits, and at rates less than is generally charged for novelties

Scions for exportation and the home trade can be had from fruit bearing trees, thereby ensuring correctness of nomenclature.

Selections, where desired, founded on the experience of many years, will be made by the proprietor, and which will seldom fail to please the correspondent.

Address,—"The Superintendent of the Nurseries, at Hawthorn Grove, Dorchester, Mass.," to the care of the subscriber,

MARSHALL P. WILDER, No. 2 Pearl st., Boston.

N. B.—Grove Hall Coaches leave No. 11 Franklin street, four times each day. Oct. 1—1t.

Southern Fruit.

Hopewell Nurseries, near Fredericksburg, Va.

THE proprietor offers for sale a large stock of Fruit and Ornamental Trees, Evergreens, Roses, &c. His stock of Apples is very large, well grown and thrifty. Having witnessed the evil of circulating numerous Northern Fruits, without proper regard to proving their quality, and adaptation to a Southern climate, the proprietor has looked more to the South for his winter Apples, and has introduced many superior varieties, perfectly adapted to our long, hot summers, and keeping until April and May.

Also, a large stock of Pears, Cherries, Peaches, Plums, Apricots, Grapes and other fruits, Roses, &c., his prices are low, for particulars see Catalogue, which will be sent to all post-paid applicants; trees packed in the best manner, and shipped according to orders,

Oct. 1, 1851—1t. H. R. ROBEY.

D. Prouty & Co.'s Premium Plows.

THE subscriber keeps on hand for sale, these justly celebrated Plows.

No. 5½ received First Premium for old land and stubble plowing, at the great trial of plows by the New-York State Agricultural Society, in 1850.

No. 40 has been got up within the past year, and was designed mainly for furrows 10 inches wide, and 7 inches deep. It has been thoroughly tried, and with results perfectly satisfactory. It is undoubtedly the most perfect plow ever constructed. It has lately received a medal at the World's Exhibition, in the trial of plows not made in Great Britain, the required furrows being 9 inches wide and 6 inches deep.

Also, for sale the MICHIGAN SOD AND SUBSOIL PLOW, designed for deep plowing and thorough pulverization, for which it is considered unrivalled. It received a special premium, equal to the highest offered, at the trial by the State Agricultural Society, 1850.

Prices—No. 5½, with draft-rod and wheel,	$12 00
without draft-rod,	11 50
No. 40, with draft-rod. and wheel,	11 50
without draft-rod,	10 50

WILLIAM LANSING, Greenbush,

Oct. 1—1t opposite Albany.

NEW STRAWBERRY, McAVOY's SUPERIOR.

THIS is the Strawberry which has just obtained the premium of $100 offered in 1847 by the Cincinnati Hort. Society for a new seedling superior to any in cultivation. It is the largest sum ever awarded for an American fruit. Mr. Downing in the Aug. number of the Horticulturist, says: "As Cincinnati is noted as the finest Strawberry market in the world, and as the Horticulturists there are especially acute in Strawberry lore, we naturally look for great merit in this prize production doubly endorsed." The Fruit Committee in their report, speak of it as follows: "McAvoy's No. 12 Seedling, we propose to call McAvoy's Superior; the specimens exhibited are superior to Hovey's Seedling, or any other strawberry that came under the examination of the committee, and is entitled to the premium of $100 offered by this Society in 1847."

Mr. McA. writes us that he has cultivated this fruit for several years, has tested it thoroughly, and that it is admitted by all who have seen it to be the most superb strawberry ever produced. Strong plants, now ready, $1.50 per doz.

Three dozen fine varieties of Strawberry, including Burr's New Pine, Richardson's Seedlings and all the new and best old varieties, with the above, for $12. Address, B. M. WATSON,
Oct. 1, 1851—1t. Old Colony Nurseries, Plymouth, Mass.

SYRACUSE NURSERIES.

THORP, SMITH, HANCHETT & CO., proprietors, Syracuse, N. Y., having 100 acres closely planted to Fruit and Ornamental Trees, Roses, Shrubbery, Green House Plants, &c., we shall have for sale the coming season, a most extensive stock of Nursery commodities, not to be excelled in size and beauty by those of any establishment in the Union. Nurserymen, Amateurs, Orchardists, and Venders, are earnestly invited to call, examine and judge. Our stock of

STANDARD FRUIT TREES,

Comprises all of the best varieties of Apple, Pear, Plum, Cherry, Peach, &c., of such sizes and quality as no contrast can disparage. We have also, both by importation and of our own cultivation,

PYRAMIDAL, OR DWARF TREES,

Of the Apple, Pear, and Cherry, designed for compact planting, being thereby *especially* desirable for small lots, Gardens, &c., as well as *generally* so, by reason of their habit of early bearing. We have all of the approved varieties cultivated in this form, from one to four years old—many of the Apples and Pears being now in bearing.

OF THE SMALLER FRUITS,

Currants, Gooseberries, Raspberries, and Strawberries, we are always fully supplied with all the best old and new sorts.

OF ORNAMENTAL TREES,

For the street border, and lawns, our stock is very large. Our Horse Chestnuts and Mountain Ash are particularly noticeable for their luxuriant growth and surpassing symmetry of form. They uniformly excite admiration.

Evergreen Trees, in great variety, new and rare, including Lebanon and Deodar Cedars, 4 to 6 feet high; Japan Cedars; Spruces; Junipers; Taxodiums; &c.

Pæonies—A splendid collection of both *tree* and *herbaceous* varieties.

Dahlias—One hundred and fifty selected sorts, comprising the finest English prize flowers, with all the best in the U. S. 25 to 50 cents each for whole roots.

Phloxes—Over fifty of the choicest kinds.

Roses—A most extensive assortment, comprising 6000 plants of the best varieties, and all the new acquisitions; amongst them the new Perpetual Striped Moss, Herman Kegel, the Hybrid Perpetual, Caroline de Sansel, Gen. Cavignac, Gen. Changarnier, &c.

Bulbous Roots—A choice collection daily expected from Holland, consisting of Double Tulips, Hyacinths, Crocuses, &c.

Plants for bedding out, of every description; *Vines, Climbers, &c.*

Cherry, Apple, and Pear Seedlings; Buckthorn, two and three years old, very strong plants.

All of which will be sold as low as at any other establishment, and in many cases lower, either at wholesale or retail.

We are now issuing a new edition of our Catalogue, containing full information of our productions, terms, prices, &c., embracing, 1st, a general descriptive catalogue; 2d, a full catalogue of select Green House Plants; and 3d, a special catalogue of Dahlias, Phloxes, and Bedding out plants; which will be sent gratis to all post-paying applicants.

☞ Mr. H. Warren, proprietor of the Agricultural Store, 315 River Street, Troy, N. Y., is our authorized agent to receive orders.

THORP, SMITH, HANCHETT & CO.

Syracuse, Oct. 1—2t.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres, about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

STATE AGRICULTURAL WAREHOUSE.

EMERY'S, Kell's, and Wheeler's Horse Powers and Threshers. Hovey's, Clinton's Tower's, Sinclair's and Botts, Straw and Stalk Cutters.

Vegetable Cutters for slicing up potatoes, beets, &c.

Corn Shellers of various patterns.

Fanning Mills of Bryan's make, this is considered one of the best Mills in use.

Clinton's, Bamborough's and other makes.

Prouty & Mears' premium Plows of all sizes.

Minor & Horton's and Eagle Plows.

Harrows of Geddes, Triangle and Scotch patterns.

Paring Plow, a superior article made under the direction of Prof Mapes.

Subsoil Plows, of Weirs pattern, which is half the draft of the old style.

Ox or Road Scrapers, Seed Sowers, Cultivators, &c.

Field and Garden Seeds.

Fertilizers, such as Guano, Bone dust, Bone Coal, Plaster, Poudrette, Bone Manure and Sulphate of Soda. For sale by

GEO. H. BARR,
Oct. 1—1t. No. 25 Cliff street, New-York.

NEW INVENTION.

Wheeler's Combined Thresher and Winnower.

(*See engraving on page* 338)

IN the successful completion of this Machine, the long desired object is attained of Threshing and Winnowing grain with but two horses, and at the same time with satisfactory and desirable speed and despatch. The *Combined Thresher and Winnower* is so simple in construction that the works are all driven by two bands, which include the one which geers it to the horse power. There is consequently but little friction produced, and the liability to get out of order, which complicated Machines are subject to, chiefly avoided. The *Thresher and Winnower* is well adapted to Field Threshing, being light and compact, and requiring but little time to load and unload it. The whole Machine, including the Horse Power, is conveniently carried on a two horse wagon, the weight being less than 2500 lbs., and can be unloaded and set in readiness to work in less than 30 minutes and re-loaded ready to move in the same time.

Several of these Machines have just been put in operation in different sections of New-York, and some of them by men who have heretofore used the most approved kinds of Machinery for Threshing and Cleaning, but which they have thrown aside and taken ours, after having thoroughly tested it. They are Threshing and Winnowing about 150 bushels of Wheat per day, and twice that quantity of Oats, and are doing their work in the most satisfactory manner. Four men and two horses are all that are required to work the Machine.

We have spent much time and money in accomplishing the desirable object of Threshing and Winnowing at one process with so small a power as two horses and at the same time with sufficient speed for all practical purposes and we now offer the Farming Community this machine, as the result of our efforts with the most entire confidence in its success. Orders addressed to the subscribers at Albany will be promptly attended to.

Oct. 1, 1851. WHEELER, MELICK, & CO.

To Nurserymen, Gardeners, and others.

THE subscriber wishes to sell his farm, of 68 acres, situated in the beautiful town of Northampton, Hampshire county, Mass., located about half a mile from Dr. Chas. Mundee's celebrated Water Cure Establishment; also about half a mile from half a dozen Silk, Cotton, Button and other manufacturing establishments, and about two miles from the Depot of the Connecticut River Railroad. The main buildings are a good ice-house and valuable barn, with two tenant houses, one-quarter of a mile distant; all of which are nearly new. A portion of the land is in a very high state of cultivation, the grounds are laid out in modern style, and are planted with shrubbery, and a large number of choice young Fruit and Ornamental Trees. Plenty of wood and water on the premises.

It is considered one of the pleasantest and best places in the western part of the town; being a desirable location for a Gardener or Nurseryman, and a good place for a Livery Stable, one having been kept there for the last six years. Some 8 or 10,000 young Fruit Trees, of choice varieties, and very thrifty, will be sold with the place if desired, and the nursery business given up to the purchaser (a portion of the trees now fit to transplant.)

Any number of acres, from six and a half upwards, will be sold with the main buildings, at a very low price. From $800 to $1,500 would be required down; the balance might remain on mortgage for a long time if desired, GEO. A. HILL.

Northampton, Mass., Oct. 1—1t.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va. R. H. ARMISTEAD,

Aug. 1—3t. Executor and Com.

NEW AND VALUABLE PLANTS,

For the Green-House, Nursery, Garden, and Pleasure Grounds.

B. M. WATSON, Old Colony Nurseries, Plymouth, Mass., offers for sale a very complete assortment of plants, including all those of recent introduction. Carriage of all Packages paid to Boston.

Dwarf and Standard Fruit Trees of the best sorts, very thrifty and well grown, and every sort of *Stocks for Fruit Trees*, at the lowest rates.

Currants, Gooseberries and Raspberries, in great variety.

Strawberries—Burr's New Pine, Richardson's Late, Early and Cambridge, Black Prince, Jenney's Seedling, Fay's Seedling, British Queen, Lord Spencer, Swainstone, Boston Pine, Hovey's Seedling, Burr's Columbus, Burr's Rival Hudson, Ellwanger & Barry's Genesee, Monroe, Climax and Orange Prolific, Keen's Seedling, Deptford Pine, Wiley's Seedling, Iowa, Methven Scarlet, Hudson, Crimson Cone, Prince's Scarlet, Unique, White Bush Alpine, Duke of Kent, Aberdeen Beehive, Large Early Scarlet, Bishop's Seedling, Old Pine, Buist's Prize, Prolific Hautbois, Dundee, Myatt's Princess Alice Maud, and Myatt's Prolific, at low rates.

English Walnuts, Spanish Chestnuts, Filberts, Medlars, Quinces, Mulberres, Figs, Grapes, &c. Diana Grape, $1.

Seedling Rhubarb, from Early Scarlet, Myatt's Victoria, Tobolsk and Giant, $3 to $10 per 100.

Ornamental Trees, including many new and curious species and varieties of Azalea, Æsculus, Ash, Beech, Birch, Cherry, Chestnut, Elm, Hawthorn, Laburnum, Linden, Magnolia, Maple, Oak, Plane, Willow, and other genera. A few hundred of the English Oak, (a fine tree, bearing immense acorns,) from 6 to 12 feet and finely grown. A few hundred extra fine European Mountain Ash, 9 feet. Also all the new and rare Conifers.

Young Trees, from 4 to 5 feet high, in great variety, from $3 to $12 per 100, of the finest varieties for Nurseries or Young Plantations.

Ornamental Shrubs, including among other new and fine sorts, Weigela rosea, Forsythia viridissima, Lonicera Ledebourii, Ribes Beatoni, Ribes sanguineum flore pleno, Ribes albidum, Ribes atrosanguineum—*Spireas*, prunifolia, Lindleyana, Douglassi, and Reevesil, Mahonia aquifolia—*Lilacs*, Enodi, Saugeana, Valetteana, Chinense, grandiflora, Chas. 10th, Josikea, and others, Cydonia sinensis.

Hardy Vines and Climbers. Ivy, Wistaria sinensis and speciosa, Periploca graca—*Clematis glauca*, azurea grandiflora, bicolor, pedicellata, flammula, montana, nepalensis, odorata—*Lonicera*, Magnevilli, flexuosa, japonica, etrusca, italica, coccinea, Virginia Creeper, White Jasmine, Climbing roses.

Calystegia Pubescens. This new and beautiful climber, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New-England, having stood in the grounds here two winters, without any protection whatever. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object through the summer months, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental, planted like the Verbenas, in patches, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of the trees in a very picturesque manner. It is particularly suited for Cemeteries and Public Gardens. Plants in pots, $3 per dozen,—Tubers for 100 plants, $3. Sent by Mail or Express at any season, with direction.

Climbers for the Border or Green-House. Passiflora fragrans, Maurandia alba, rosea and Barclayana, Thumbergia grandiflora, Manettia glabra, Lophospermum spectabile Ipomea Learii, and ficifolia Physianthes albus.

New Verbenas, imported this season. Heroine, Madame Clovet, Adile, Sir Seymour Blanc, Morpheus, Talleyrand, Lady of the Lake, Malvina, Rubicon, Favorite, Eclipse, Clotilde, Phæton, Madame de Gourney, Beauty of Rye, Arcadine, Sunset, Souvenir, Captivation, Snowflake, Wonderful, Phydias, Paul and Virginia, Royal Purple, Striped Eclipse, Graciosa, Gen. Brea, White Perfection, $3 per doz. Also, all the best of previous years, at $1.50 per dozen—as Reine du Jour, Iphigenie, St. Margaret, Defiance, Boule de feu, &c. &c. The new Verbenas are very superior flowers, and are quite different in style to the older sorts.

New Fuchsias. Spectabilis, Serratifolia, Acteon, The Rajah, Nymph, Purity, Perfection, Dr. Jephson, Eliza Miellez, White Perfection, Newberry's Delicate, Gen. Negrier, Dodd's Magnificent, Sir Henry Pottinger, Lord Nelson, Beauty of Leeds, Yorkshire Eclipse, President Porcher, Elegantissima, Beauty of Salisbury, One in the Ring, Cleopatra, Gaylad, flavescens, Goliath, Acantha, Napoleon, Mrs. Milbank, Chauvierii, Chateaubriand, Sir John Falstaff, Striata, $5 per dozen. The collection of Fuchsias is very fine, and contains all the really valuable varieties.

New Chrysanthemums. Aydee, Brez, Boisgerard, Matricarioides, Bianca, Daphne, Lutescens, Charlemagne, Malvina, Calebasse, Snowflake, Brinda, Orion, Temple de Solomon, Celestial, Napoleon, Narcisse, Gen Mercier, &c., 30 varieties, at $2 per dozen. Cloth of Gold, Lady Tulford, Reine d'Or, 50 cents each.

New Cinerarias. Cerito, Nymph, Resplendens, Adile, Villiers, Edmondiana, Apollo, Beauty of Flushing, Climax, Beauty of Newington, Joan of Arc, $4 per dozen.

New Petunias. Eclipse, Prince of Wales, Enchantress, Beauty of Stow, North London, Madonna, $4 per dozen. Older sorts, as Alice Peel, Yorkville Beauty, Beauty Parfait, Grandiflora superba, &c., $2.50 per dozen.

Cape Bulbs, &c. *Ixia* maculata, Sessleyi, Pheasant's Eye, croscata, polystachya rosea—*Iris* pavonia, hybrida, crateroides, alba, longifolia, viridis, columniaris, fusca flava—*Oxalis* speciosa, Bowei, bifurctata, versicolor, nivea—*Lachenalia* tricolor, and others—*Hernanthes*—pubescens—*Gladiolus* pudibundus, formosissimus, &c., at $3 per dozens, in pots.

Roses. The best Tea, China, Noisette, Bourbon, Hybrid Perpetual and Climbing Roses, from $3 to $5 per dozen. Fortune's 5 Colored Rose, (new,) $1.00. Fortune's new double Yellow Climbing Rose, $1.

Prairie Roses, in 16 superb varieties, at $4 per dozen sorts—Cestrum aurantiacum, a superb plant for the border or the Green-house, 50 cents—Adamia versicolor, 50 cents—Abutilon Bedfordianum, 50 cents—Luci da rosea Geranium, 50 cents—Heliotrope Voltairianum and Souvenir de Leige, 25 cents—Habrothamnus corymbosus, 50 cents—Lobelia fulgens insignis, 50 cents—Plumbago Larpentæ, 37 cents—Veronica Andersonii, 50 cents—Veronica Lindleyana, 25 cents—Salvia splendens major, 25 cents—Maurandia alba, 25 cents—Lauschneria Californica, 25 cents—Tetratheca verticillata, 75 cents—Torrenia concolor, 37 cents.

Camellias, Heaths. Azaleas, Cactus, Salvias, &c., of the most desirable sorts, for the Parlor or Green-house.

Herbaceous Plants, Pinks, Carnations, Phloxes, Forget-me-not, Lily of the Valley, White Lillies, &c., at low rates.

A Priced Catalogue for this autumn is now ready, and will be sent post-paid, on application.

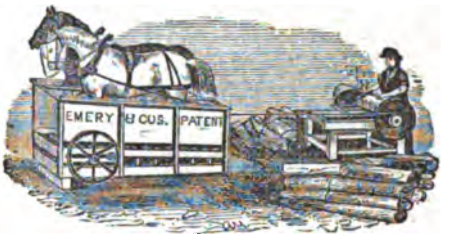
B. M. W. offers his service in laying out and planting the grounds of Country Residences, Public Gardens and Cemeteries, in any part of the country. In this climate, where the spring is so short, if considerable planting is required, the work should be commenced in the autumn. Every description of plants can be furnished, grown under his immediate supervision, including all the novelties, at the lowest rates.

Oct. 1, 1851—1t.

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing Long Island, offer their select and unrivalled Collection of Fruit and Ornamental Trees, Shrubbery, Bulbous and other Flowering Plants, and Green-house Plants. The stock of Standard and Dwarf Pears, and of all other Fruit Trees, is very large. 100,000 Evergreen Trees, comprising every variety. 25,000 Roses, of the choicest Daily, Perpetual, and Moss varieties. 100 splendid varieties of Pœonies, 10,000 Grapevines of the finest kinds, and all the new and superior Strawberries. Descriptive Catalogues, *with reduced prices*, will be sent to post-paid applicants.

Oct. 1—2t.



EMERY & CO.'S

New-York State Society's First Premium

RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and wormanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

The price for Emery & Co.'s one Horse Power,....	$85.00	
do do Threshers and Separator,.	35.00	
do Bands, wrench, oiler and extra pieces,....	5.00	—$120.00
do Two Horse Power,.	110.00	
do do Thresher and Separator,......	35.00	
do Bands, oiler, wrench, &c.,................	5.00	—$150.00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,......		$75.00
do Saw Mill, complete for use,................		35.00
Price of Grant's Fan Mills, adapted for hand or power from,..		$22.00 to 28.00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves.

One Horse Power,............................	$75.00
Two Horse Power,................................	100 00

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Individuals wishing EMERY & Co.'s Latest Improved Premium Horse Power, will be careful to observe that their name is cast in full on every link of chain and the wheel hub.

For further particulars see illustrated Catalogue, furnished gratis on application to EMERY & CO

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway, Albany, New-York.

The proprietors will exhibit their machines at the Ohio and Michigan State Fairs, to be held at Columbus and Detroit, this fall, and be prepared to take and fill orders.

AGRICULTURAL IMPLEMENTS.

G. W. Girty.] **Girty & Elliott, Cleveland,** [F. R. Elliott.

KEEP constantly on hand and for sale, the largest collection of Agricultural Implements in the Western States. Every new pattern and improved implement is obtained and offered for sale as soon as manufactured. Farmers need have no occasion to send East for we can furnish everything desirable that is contained in any Eastern collection. Cleveland O., Sept. 1—2t.

FOR SALE.

FULL Blood Shanghae Fowls. from a stock imported in the ship Canada, direct from Shanghae in February last. All orders promptly executed.

WM. BULL,
Sept 1—2t.* Plymouth, Ct.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

TO FRUIT GROWERS.

FOR SALE by the subscriber, an extensive assortment of the best varieties of the Pear, Apple, Plum, Cherry and other Fruit Trees; also Ornamental Trees, Shrubs, Evergreens, &c. &c.

Tulips in upwards of 200 choice varieties. 50,000 Buckthorn plants for hedges, one, two, and three years from the seed.

Pear trees in a bearing state, and extra sized fruit trees, always for sale. Purchasers are invited to call and make their own selection.

Sept. 1—2t. SAMUEL WALKER, Roxbury, Mass.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Apple Trees for Orchards,

For sale at the Nnrsery of J. J. THOMAS, Macedon, N. Y.

MANY thousand trees of large size, (mostly 7 to 9 feet,) and of handsome and thrifty growth, ***including the best standard sorts, and the best new varieties***, and

All Propagated from Bearing or Proved Trees,

are offered for sale the present autumn, at *Fifteen Dollars per hundred*, or sixteen dollars if securely packed in wet moss and bound in strong mats, and delivered at canal or railway. The best selection of sorts will be made by the proprietor, in all cases where purchasers desire.

Also, an excellent assortment of proved and genuine Peach, Cherry, Plum, Pear, and Apricot Trees, Raspberries, Strawberries, &c., add a carefully selected collection of the finest Ornamental Trees, Shrubs, Hardy Roses, and Herbaceous Perennial plants.

All orders, accompanied with remittances, and directed Macedon, Wayne co., N. Y., will be carefully and promptly attended to.

Sept. 1—2t.

New Staminate Strawberry.

WALKER'S SEEDLING.

THIS new variety of the Strawberry is for sale and will be sent out, to applicants in the spring of 1852, price one dollar per dozen. Orders may be addressed to Samuel Walker, Roxbury, or to Mr. Azell Bowditch, at the Massachusetts Horticultural Seed Store, School Street, Boston.

The Fruit Committee of the Massachusetts Horticultural Society, report of the variety as follows:—"WALKER'S SEEDLING;" this strawberry has now been fruited three years; it is a dark colored berry, of good size, a very abundant bearer, of high flavor, very fine quality, and it will be, it is believed an acquisition. It is a staminate, worthy, as the committee think, of an extended cultivation. *Boston, June 28th*, 1851.

Fruit, Ornamental and Evergreen trees, shrubs, &c., for sale at the nurseries of SAMUEL WALKER,
Sept. 1—6t. Roxbury, Mass.

PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Linnæan Botanic Garden and Nursery, Flushing, near New-York.

THE following varieties, and others, at reduced rates, by the dozen or hundred, and Descriptive Catalogues sent to all post-paid applicants.

Charlotte, Crimson Pine, Primate, Profuse Scarlet, Primordian, Hovey's Seedling, Burr's New Pine, Iowa, Crimson Cone, Black Prince, Taylor's Seedling, Prolific Swainstone, Lizzie Randolph, Eustatia, Montevideo Pine, Brilliant, Cornucopia, Le Baron, Refulgent, Theresa, Unique Scarlet, Unique Prairie, Old Early Scarlet, Serena, and the Alpine varieties. W. R. PRINCE & CO.

Sept. 1851—2t.

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the new Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.

Sept. 1—3t.

Superior Cultivated Bell Cranberry Plants.

THIS new variety of the Cranberry, grown and cultivated upon ordinary upland, is intended expressly for garden and field culture, being extremely hardy, vigorous and productive well suited to almost any soil and location.

The vines can be sent to any part of the United States in the root, carefully packed in boxes at $7 per thousand or can be furnished growing in ornamental pots forming a beautiful ornament for the window, garden, or Greenhouse. Price $2 per pot.

Persons wishing for plants should order previous to the first of October next. Full printed directions accompany the plants.

Circulars giving full information, or specimen plants sent gratis to all post paid applicants. Address F. B. FANCHER, Gen. Agent,
Sept. 1—2t.* Horticulturist, Lansingburgh, New-York.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed.

Reference to Mr. J. Van Dusen, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

Patent Wheel Cultivator,

ONE of the most useful implements on the grain farm for summer fallowing, preparing grain land, and putting in grain; price with 9 teeth, $30.

PATENT GRAIN DRILLS—of the most approved constru for 7 to 11 teeth—prices, from $50 to $100. EMERY &

SEED WHEATS.

GOLDEN Australian, White Soules, Beaver Dam, White Flint, White Chaff Bearded and Mediterranean Seed Wheat, selected with care from fields where but the one variety was grown. For sale by GIRTY & ELLIOTT,
Sept. 1—2t. Cleveland, Ohio.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. have the pleasure to announce to their *patrons* and the *public in general*, that their stock of

FRUIT AND ORNAMENTAL TREES, SHRUBS, &c.,

which they offer for sale the coming autumn, is of the *very best* quality; and embraces everything in their line that can be procured in the trade.

Dealers and planters of trees *on a large scale*, will be treated with on as liberal terms, as can be done by any establishment of reputation in the country; they flatter themselves that for correctness of nomenclature of fruits, (which is a serious consideration to planters) that their stock is as nearly perfect as can be, having all been propagated on their own grounds, *from undoubted sources*, under the personal supervision of Mr. Saul.

They have propagated in large quantities, *all the leading and standard varieties*, which *are proved* to be best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all *novelties*, and certain kinds particularly suited to certain sections and localities of the Union, and the Canadas.

Their stock of Pear trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

The stock of Apple trees is also very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces, also Grape-vines, Gooseberry, Currant, Raspberry, and Strawberry plants in great variety, &c. &c.

Also Pears on Quince, Cherry on Mahaleb and Apple on Paradise stocks, for pyramids and dwarfs for garden culture, and of which there is a choice assortment of the kinds that succeed best on those stocks.

Deciduous and Evergreen Ornamental Trees and Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus leaved Ash, Upright gold barked Ash, Flowering Ash, Three Thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Auracaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

WEEPING TREES.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, gold barked Weeping Ash, Weeping Japanese Sophora, Weeping Elms (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great variety; such as Hybrid Perpetuals or Remoutants, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette and Prairie Roses; also Herbaceous plants in great variety, &c. &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn and Osage for Hedge plants.

Newburgh, Sept. 1, 1851—2t.

To Farmers, Gardeners and Nurserymen.

THE Lodi Manufacturing Co. offer for sale a freshly prepared article of Poudrette for fall use. It will be found a cheap, handy and lasting manure upon grass preceded by wheat or rye, also upon turneps, celery, &c. It has been found of great use upon lawns as a top dressing, and grass lands generally. It has also received great commendation for its efficacy upon trees and shrubs, particularly Evergreens and ornamental trees. Reference is made to A. J. Downing, Esq., B. M. Watson, Plymouth, J. M. Thorburn & Co. and others —also to the following letter:

Extract from a Letter of Hon. Daniel Webster, dated

WASHINGTON, March 19, 1850.

"If I neglect the annual purchase of some of this article, my gardener is sure to remind me of it. He thinks it almost indispensable, within his garden fence; but there are uses, outside the garden, for which it is highly valuable; and cheaper, I think, than any other manure, at your prices. A principal one, is the enrichment of lawns and pleasure grounds, in grass, where the object is to produce a fresh and vigorous growth in the spring. Our practice is to apply it when we go to town in the autumn, and we have never failed to see its effects in the Spring."

Price of Poudrette $1.50 per bbl. for any number over six barrels —and of Poudrette for *shrubs*, $2.00 per bbl. for any quantity—in both cases *delivered* free of cartage on board of vessel in New-York.

☞ Five shares of stock for sale in the Lodi Manufacturing Co. Dividend payable in Poudrette. Apply to the LODI MANUFACTURING COMPANY, 74 Cortlandt st., New-York.

Sept. 1—2t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—8t.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot in length,	per thousand,		$0 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
D. C. SMITH, Schenectady.
August 1—3t Executors of John J. Degraff, deceased.

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NOW READY.

PARSONS & CO.'S Catalogue of *Roses* and *Exotic Plants*, for sale the ensuing autumn and spring, comprising the new genera and species recently introduced from Europe, and now sent out for the first time. The Catalogue of Fruit and Ornamental Trees, hardy Shrubs, Vines, &c., including all the new and rare Pines and other coniferæ, with various new trees and shrubs, selected by one of the Proprietors in Europe, will be ready about the 15th inst.

They will both be sent gratis to all applicants who prepay and enclose a postage stamp. Address PARSONS & CO.,

Oct. 1.—1t. Flushing, near New-York.

Rochester Commercial Nursery,

Established 1830.

THE attention of the public is invited to our large stock of fruit and ornamental trees, shrubs, green-house plants, &c., &c., all of which have been carefully cultivated and are warranted correctly named.

Particular attention has been paid to the propagation of the very best standard fruits, and we are confident that we can fill any orders for these, however large.

We do not boast of the size of our Catalogue, but of the number and beauty of our trees.

An extra quantity of cherry seedlings on hand, of one year's growth. BISSELL & HOOKER,

Oct. 1—2t. Rochester, N. Y.

Fruit and Ornamental Trees.

THE subscribers would beg leave to give notice to dealers and others purchasing Pear Trees, that their stock is remarkably well grown this season, and will be very strong and fine for the fall sales, and is as extensive a collection of saleable trees as can be found at any other nursery in the country. The collection grown on Quince stock is also very fine.

The stock of Apple Trees will also be very large this fall, in lots to suit purchasers.

Plums.—A general assortment of the most leading kinds.

Cherries, Apricots, Peaches, Grape-vines, Gooseberries, Currants, with other small Fruits, at the lowest market prices.

Ornamental Trees, being also grown extensively, can be furnished by the hundred at very reasonable rates—European Linden, Mountain Ash, Scotch Elms, English Elms, Horse Chestnuts; with a good collection of Roses, &c. Catalogues will be forwarded to all applicants. WILSON, THORBURN & TELLER, Nurserymen, 492 Broadway, Albany. Oct. 1—1t.

Dana's Muck Manual.

JUST published, by Jas. P. Walker, Lowell, Mass., a new, revised, and greatly enlarged edition of the Muck Manual for Farmers, by Dr. Samuel L. Dana. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. Pease & Co.; in New-York, by Mr. C. M. Saxton. Oct. 1—3t.

A very Desirable Farm for Sale.

I Offer to sell my farm of 230 acres, situated four miles south of the village of Oxford, Chenango county, N. Y., and near the river and canal. 250 acres of it are under high cultivation, and well and durably watered. The remainder is well timbered. The fences are chiefly stone, and in good repair. It has a large two story mansion, five large barns and sheds, in good repair. It is admirably adapted for a dairy, or for grazing and grain—and has a fine orchard of grafted fruit The farm, for profit, health, and beauty of scenery, cannot be surpassed. It is fully supplied with farming tools and stock, and 130 tons of hay, all or either of which may be had with the farm. The farm can be conveniently divided. The title is perfect, price low, and terms easy. Apply to G. VANDERLYN,

Oct. 1—2t. Oxford.

FARM FOR SALE.

ONE of the best grazing farms in Chautauque county for sale, at $18 an acre. It contains about 220 acres, about 120 acres of which is under a good state of cultivation. The buildings and fences are good, and there is on it a good orchard of grafted fruit. A part of the purchase money can remain under a bond and mortgage for a term of years if desired. The title is perfect. For information inquire of JOHN D. PATTERSON,

Oct. 1—2t.* Westfield, Chautauque co., New-York.

New-York Importers and Jobbers.

FREEMAN, HODGES & CO.,

58 Liberty street, between Broadway and Nassau-street, near the Post-Office, New-York.

WE are receiving, by daily arrivals from Europe, our Fall and Winter assortment of rich fashionable fancy silk and millinery goods.

We respectfully invite all cash purchasers thoroughly to examine our Stock and Prices, and. as interest governs, we feel confident our Goods and Prices will induce them to select from our establishment. Particular attention is devoted to Millinery Goods, and many of the articles are manufactured expressly to our order, and cannot be surpassed in beauty, style and cheapness.

Beautiful Paris ribbons, for Hat, Cap, Neck, and Belt.
Satin and Taffeta ribbons, of all widths and colors.
Silks, Satins, Velvets, and uncut velvets, for Hats.
Feathers, American and French artificial flowers.
Puffings, and Cap trimmings.
Dress Trimmings, large assortment.
Embroideries, Capes, Collars, Undersleeves and Cuffs.
Fine embroidered reviere and hemstitch cambric handkerchiefs.
Crapes, Lisses, Tarletons. Illusion and cap laces.
Valenciennes, Brussels, Thread, Silk, and Lisle thread Laces.
Kid, Silk, Sewing Silk, Lisle thread, Merino Gloves and Mitts.
Figured and plain Swiss, Book, Bishop Lawn and Jaconet Muslins.
English, French, American and Italian Straw Goods.

Oct. 1, 1851—2t.*

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.: the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. Barry, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saving a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit. and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—*N. Y. Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States. Just published by CHARLES SCRIBNER,

Oct. 1—3t. 145 Nassau st., New-York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, NOVEMBER, 1851. VOL. VIII.—No. 11.

Agricultural Schools.

An Institution for practical agricultural education is becoming more a desideratum every year. Before the soil had suffered from continual draughts upon its productiveness, its fertility gave the farmer no reason to doubt that its resources were inexhaustible; but when his crops, with the same cultivation, are lessened season by season, he asks for a remedy for this evil. That experience alone, in the same beaten track, will produce any higher result, is an idea which the many worn-out farms disproves sufficiently. There must be "an instauration from the very beginning"—a right commencement, and a proper and continued attention to preserving the heart and vitality of the soil, if its worth is to be retained, not only unimpaired by culture, but always improving. There are facts connected with tilling the soil, which the day-laborer could never discover, or at best, only after a succession of repeated failures, which in all probability would have made the richest lands almost a desert, and the experimenter too old to reap much reward for his exertion. It is urged, on the other hand, and with some force, that the laboratory of the chemist is not the place to acquire valuable information on practical agriculture,—that farmers are dependant on the labor of their hands for their support, and have not the means to devote the flower of their youth to scientific study. It is said that nature is the only proper laboratory for the sons of the soil, and the sun, rain and virgin earth, all the needful chemical agents.

That objections like these are not well founded, and can have but little weight, must be evident on reflection. Soils do deteriorate, crops decrease, fruit trees become diseased or die through utter neglect, and the staple products of farms suffer from blight, or other unknown causes. The investigations of inquiring scholars have already thrown much light on these subjects, and agricultural papers have done what they could to keep the public informed, and to promote further reseach. Yet there is something wanting, and that seems to be a means of imparting just the information needed, and that so explained and brought down to common apprehension, that the intelligent culturist can make farther and certain progress. To supply this want, efforts have been made from year to year to induce the legislature to endow an Agricultural College in connection with a model farm, but without success. Many think the time has not yet come when such an institution can be made successful, without greater expense and risk than the demand will warrant.

It has long been our opinion, that the true interests of agricultural education would be best promoted by the establishment of an institution like the one proposed by Prof. NORTON, under the auspices of the University of Albany, the prospectus of which was given in our last No. It does not propose to make an adept chemist, mineralogist, or geologist of the student; but simply, by a course of lectures, adapted to the sphere of the farmer's observation, to acquaint him with the general principles of the composition of soils, the best methods of fertilizand invorating them, the theory of rotation in crops, and the general improvement of plants and animals. The advantages of such a course of lectures are ably set forth in the circular, and the value of the knowledge that can be obtained by instruction thus communicated—by the mutual sharpening of mind with mind, and the influences that cluster around an institution where combined effort for a given end is being made, cannot well be estimated.

To those who have been readers of the Cultivator, we need not speak of the ability of Prof. NORTON, his clear views on all practical as well as scientific subjects, and his capacity to impart valuable instruction. Among profoundly learned scholars in his department, he holds an eminent rank, and his knowledge is of that available sort which adapts itself to the popular demand.

We hope the friends of agricultural education throughout the state will aid this effort. Provision has been made by the Trustees of the University for the gratuitous attendance of two young men from each Senatorial district in the state, upon the course of lectures the ensuing winter; and those who feel an interest in this subject should see that this liberal offer is not lost to the community. We know of no way in which so much can be accomplished for the cause of agriculture, at so small an expense; and we cannot doubt that the return of a class of seventy-five or a hundred young farmers, from such a course of instruction, to their summer labors, in different parts of the state, would be the means of awakening an ardent desire in others to avail themselves of a like benefit, and secure without further effort, a full attendance in the future. Thus a sure foundation will be laid, upon which can be erected an institution which will supply our wants, without the possibily of a failure—will grow up with our growth, and strengthen with our strength. Neither public or private munificence will be withheld when the community become convinced that our farmers need its enlargement, and will avail themselves of its advantages. We do not see why this Institution need wait long to secure the confidence of the farming population, and acquire the reputation it will justly deserve. Let it receive prompt patronage, and it will not be long before its influence will be seen in improved farms and enlightened farmers.

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Analysis of the White Sugar Beet.

By J. H. Salisbury, M. D.

For the samples examined I am indebted to the kindness of S. G. Noyes, Esq., of Greenbush. They were very large, fleshy, and crisp. Average length of root, 18 inches. Average widest diameter, 4 inches.

Percentage of Water, Dry Matter, and Inorganic Matter.

			Root.
Percentage of	water,		90. 55
do	dry matter,		9. 45
do	inorganic matter,		0.995
do	do	in dry matter,	10.534

The above results show this variety of beet to be highly charged with water, of which it contains 90.55 per cent; leaving of dry inorganic matter only 8.455 per cent, and of inorganic matter, 0.995 of one per cent. The fresh roots contain about one pound of inorganic matter to the hundred, the dry roots 10½ pounds. 10.050 lbs. of the fresh roots yield 100 lbs. of inorganic matter.

Composition of the inorganic matter of the roots.

Carbonic acid,	17.31
Silicic acid,	0.78
Phosphoric acid,	10.80
Phosphate of iron,	0.91
Lime,	1.85
Magnesia,	1.09
Potash,	13.42
Soda,	50.84
Chlorine,	0.78
Sulphuric acid,	1.76

The analysis shows the inorganic matter of this variety to be made up mostly of soda, potash, and phosphoric acid. Besides these three, it contains in small proportion, lime, magnesia, sulphuric acid, chlorine and iron. The analysis readily suggests the materials best suited for its inorganic nourishment.

Proximate organic composition of roots.

	100 parts of fresh roots.	100 parts of dry roots.
Water,	90.550	
Fiber,	2.295	24.039
Sugar,	5.730	60.023
Dextrine	0.440	4.608
Casein,	0.595	6.242
Albumen,	0.443	4.617
Starch,	trace.	trace.
Resin,	0.020	0.260
Gluten,	0.015	1.157
Oil,	0.010	0.105

In the above analysis we see the nutritive qualities of this variety of beet. One ton of the fresh root contains of sugar, 114½ lbs.; of dextrine, 9 lbs.; of albumen, casein and gluten, 21 lbs.

Ultimate organic composition.

100 parts of dry roots gave of

Nitrogen,	1.465
Carbon,	40.729
Oxygen,	41.511
Hydrogen,	6.529
Inorganic matter,	10.534

Albany, Oct., 1851.

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Deep Plowing, on some soils, improves them astonishingly. The Michigan Farmer says that Lewis Cone, the great wheat grower of Oakland county, in that state, commenced his system of deep plowing 15 years ago, since when his wheat crop has been more than doubled, taking one year with another, through the whole time.

Manure—Query.

Eds. Cultivator—It is a query amongst farmers in this neighborhood, (and probably elsewhere,) whether stable manure, hauled out and spread upon oat stubble, preparatory to sowing wheat, thus exposing it to the action of the sun and dew during a continued drouth, will lose much or any of its fertilizing properties. Some are of the opinion it will not, believing that the generation of ammonia is prevented by its being thus scattered, and therefore none of the active principle can be lost by evaporation. If any of your able correspondents can give any information upon the subject, tending to a satisfactory conclusion, it will be gladly received. John J. Moore.
Quakertown, 8 *mo.* 11*th*, 1851.

The nitrogen of animal manure is converted into a carbonate of ammonia by fermentation. It is in this state both soluble and volatile. Therefore when manure containing ammonia is spread out, exposed to the direct action of the air, more or less loss would ensue. When guano is spread on the surface of dry ground, and left uncovered, it is in a great measure lost, unless rain enough soon falls to dissolve the ammonia and carry it into the soil. If the surface was hard, so that water would not soak into it, the ammonia, if brought into solution by rain, would be mostly washed off. This illustrates the effect which would take place with stable manures. If the manure should be spread before fermentation takes place, the loss of ammonia would undoubtedly be less, but that there would still be a loss of fertilizing properties, is at least probable. The solid excrement, which is dropped on pastures by horses and cattle, does comparatively but little good; it gradually wastes away under the effects of rain and evaporation, without producing very marked results on the herbage. The urine, however, which soaks at once into the soil, shows its effects in a striking manner. We would suggest to those who deny that manure can be wasted by evaporation, to try an experiment by placing 1,000 pounds in shallow troughs, or in a basin formed of rock. Here let it be exposed as much as possible to the alternate effects of rain and sunshine, thoroughly wet and dried as often as practicable—for a year or longer. Then let it be applied to any crop, under the same circumstances, with 1,000 pounds of the same kind and quality of manure, as that which had been exposed was at the beginning of the experiment, and compare the yield produced by each lot. Eds.

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Sheep Poisoned by Peach Leaves.—The poisonous quality of the leaves of the wild cherry has been long known, and cattle and sheep have frequently lost their lives by eating them. The substance which produces these effects, is supposed to be prussic acid. Peach leaves are known to contain this acid, and a writer in the *Wood-Grower* states that two sheep had died from eating freely of peach leaves. Various remedies have been given for the relief of animals which have eaten poisonous substances. In regard to sheep and cattle, we have formerly experienced good success from giving as soon as the illness of the animal is discovered, sweet-oil, lard, or butter, mixed with salt. For a sheep, a gill of oil, with a table-spoonful of fine salt, was the quantity given. A cow might have four times that quantity. It is very important that the dose be given as soon as the symptoms of poisoning are manifest; the longer it is delayed, the less likelv it will be to afford relief.

Agriculture of Illinois and Iowa.—No. 1.

BY W. G. EDMUNDSON.

EDITORS CULTIVATOR—Probably no portion of the North American Continent, presents larger claims upon the attention of the friends of agricultural improvement, than the states and territories bordering on the upper Mississippi and her tributaries. The strong arm of science has, in rare instances only, been employed in the development of the unrivalled agricultural resources, with which this vast region abounds. No portion of the inhabited globe can boast of so great an extent of rich, fertile, alluvial soil; and the climate is sufficiently various to suit the tastes of those who admire a high degree of latitude, as well as those who may prefer the summer temperature of the tropics. The northern wheat belt of the Union is embraced within the lines of latitude constituting the upper Mississippi valley, and the period is not far distant when the cultivation of the cereal grains will become as extensive, and as profitable, as is now the case in Ohio. Like those who have preceded in their journeyings through this country, in search of agricultural knowledge, we have been in many important particulars doomed to disappointment. We expected to have found a country teeming with substantials and luxuries, such as abound in every country distinguished for its high state of civilization and refinement; and we took for granted that on the rich prairie soils at least, the squalid wretchedness, which frequently may be met with among the white laboring population of the south, would nowhere be seen on the fertile plains of the upper Mississippi. The masses of the rural population are not so comfortably clad, their houses and out-buildings are not so neat and commodious, their farms are not so well cultivated, and in an average of cases so productive, as may be found in the new settlements of a timbered district in Ohio or New-York. These conclusions have not been rashly formed; but have been forced upon our mind, greatly against our will, after having spent some six weeks among the farmers for the express purpose of obtaining a knowledge of their habits and customs, and especially an acquaintance with their systems of agriculture.

The people who have migrated to this country, are generally those of the laboring population of the oldest settled states of the Union, and also of the same class from Europe. They landed here with limited means, and many of them with large families, and generally settled along the borders of streams, contiguous to timber, where, in the process of acclimation, they became exposed to the malaria, so common in all rich alluvial countries. Uncomfortable dwellings; a coarse and somewhat unpalatable diet; deprivation of the common necessaries of life; and a thousand other inconveniences, that necessarily fall to the lot of a frontier people, have had the obvious tendency of blunting the finer feelings of those who had the hardihood to leave their happy homes, for the purpose of building up our western cities, towns and rural settlements. Thousands who came to this country at an early day, dreamed only of becoming wealthy and comfortable, by the extent of their landed operations. Fields less than a quarter section each, were considered too trifling for a prairie farmer; and corn, wheat, and other crops were cultivated on a large scale in the most slovenly manner. For a time, the yield continued to be abundant, and owing to the low prices of produce, and the great distance to which it had to be transported to market, the most slovenly systems of farming practiced in any country, found favor, even among many who, formerly, when doing business in the eastern states, were considered among the most enlightened cultivators of the soil in their respective neighborhoods. By these and other influences, farming, instead of taking a high rank, appears to have been gradually on the decline, and the hackneyed expression of *hard times* is more commonly heard in this country, than in any portion of the Union, through which we have traveled.

The foregoing is the dark side of the picture, and right glad would we have been, had it been in our power, to have blotted out of our remembrance, the strong and unfavorable impressions that on all sides forced themselves upon our mind, whilst critically examining the character and condition of the agriculture of the rich and fertile lands that universally abound on both sides of the upper Mississippi. Much, very much, however, can be said on the other side of the subject, which will greatly relieve the mind of the reader from any unfavorable impression that may have obtained credence through the somewhat startling facts enumerated in these prefatory remarks. Honorable exceptions to the general prevailing systems of agriculture are frequently to be met with, and occasionally whole settlements are to be found, where the inhabitants evince as much enterprize, and entertain as exalted notions of improvement, as in the most highly cultivated sections of New-York. Besides this, farming in these sections of country, affords as liberal a profit when conducted on rational principles, in proportion to the amount of labor and money expended, as in any portion of the Union. This is especially the case within the past five years, owing to the fact that the southern markets for all the leading staples, are quite as good and reliable as the northern markets, and besides a given amount of capital expended in agriculture will afford on a rich prairie soil, a much larger return than on the best farming lands of the eastern or northern states.

The impression has become pretty general in the oldest states, that the day has gone by when a profitable investment can be made in Illinois and Iowa, in the purchase of lands for agricultural purposes. A greater mistake than this could not possibly have been made, and the evidences on all sides are abundant, that yearly the chances for making handsome sums, by purchasing real estate for the purposes of practical farming, are and will be on the increase. The resources of the country bordering the whole of the Mississippi waters, are of such an extraordinary rich character, that having been once brought under favorable notice abroad, they cannot long remain undeveloped. The great thing most required in this charming region of country, is a liberal investment of capital and skill in the business of agriculture. Many false impressions have gone forth in regard to the capacity of this country; and not a few suppose that it is more severely afflicted with pestilential and contagious diseases, than the Atlantic states; and what may be the case with a few isolated places, is taken for granted to be general. In preparing some original papers on the agricultural and other resources of the west, we shall be influenced entirely by a strong desire of doing justice to all sections of the country, and whilst the bright side of the picture shall be constantly presented to the vivid notice of the readers of the Cultivator, we shall not fail to expose, in a becoming manner, any glaring defects that may come under our notice. Indeed, our object is not so much to criticise, as it is to place before the public an array of facts and deductions, based upon the enlightened practice of others, which shall have for their object the improved cultivation of the soil, and the elevation of the social and moral condition of the rural population.

The north-western states and territories afford an almost boundless field for the operations of a philanthropic mind; and, judging from what we have already seen, no portion of the Union so much requires the presence of a numerous and powerful band of men, devoted to the introduction of the practical sciences, in combination with the various branches of agriculture. In so great an enterprise, no single individual can do much; but finding that the country is dotted over with many intelligent farmers, who are anxiously endeavoring to sift the wheat from the chaff, by reading the mass of agricultural literature with which our country abounds, and by adopting a course of experiments based upon the most enlightened practice, we have reason to take courage, and have faith that every facility will be afforded, that could be desired, to enable us to bring into notice the present and probable future condition of the states and territories bordering on the upper Mississippi.

The manner of arranging our matter will be somewhat varied, to suit the exigencies of the case; but for the present, we shall content ourselves in discussing a few subjects under appropriate heads, in the hope that we shall be able to remove many false impressions that have obtained favor by those who have never personally investigated the matter.

The Cultivation of Wheat.—For the past five years, the wheat crop has been a partial failure throughout the entire prairie country of the west. The causes producing this result, have been various, and in no two seasons of a similar character. The losses already from this source, have been such as to dispirit the wheat growing farmers, and many are now turning their attention to other branches of agriculture. The Hessian fly, the blight, the rust, and winter-killing, are the main agencies through which these unexpected losses have been brought about; and it is now thought questionable by many sensible farmers, whether a prairie country can be made profitable for the cultivation of winter wheat. No one doubts the capacity of the soil for the production of breadstuff, but the opinion is gaining favor that it is useless to attempt it on a large scale until some better plan of managing the crop is discovered, which will admit of general adoption. How far this opinion may be true, it will be our purpose to investigate, and in doing so, we shall be influenced by the single motive of affording as much information upon this difficult question, as our limited acquaintance with the country, and the prevailing system of agriculture practiced, will enable us to do.

Before suggesting any plan for the amelioration of the condition of the wheat growers of Illinois and Iowa, it would be well to first investigate the plans of culture that are ordinarily practiced, and then we shall be better understood when submitting our views for public criticism.

The recently broken prairie sod, is now thought the most certain preparation for a winter wheat crop. The sod is usually broken in June and July, and if the rot be perfect, it is plowed the second time, mostly lengthwise of the furrow, the last of August or in September, and sowed with wheat, at the rate of about six pecks per acre. By far the greater portion of the sod is only once plowed, and when it becomes well rotted, is harrowed with a heavy inplement, and sown in the early part of September, covering the seed with the harrow. Neither fine seed harrows, or drilling machines, can be used to advantage on recently broken prairie sod. The whole process, necessarily, has to be done in the roughest manner, and with but a trifling cost, yielding in an average of cases, from 10 to 15 bushels of marketable wheat per acre. As in Ohio, wheat frequently is made to follow in succession after a corn crop, and sometimes is sown among the standing corn, but generally is cut up and shocked in parallel rows across the field, leaving strips to be sown with a spring crop. The growth of weeds in a majority of cases, becomes so rank before the period of sowing the wheat, that the seed cannot be covered with anything like neatness, and to the mind of a tidy farmer, the whole process of sowing wheat after corn, cannot be viewed in a favorable light, and from the frequent failures from this source, has now but few advocates. Occasionally, naked summer fallows are attempted to be made, but with what success the reader may judge, when we state that stubble, or other land, is commonly broken up in June, and is then allowed to remain almost untouched, till the latter part of August, when it is again plowed for seed, in broad, flat lands, and the seed sown and harrowed in, without making water furrows for carrying off the redundancy that more or less remains in the surface in winter and spring months. By thus plowing the summer fallow only twice, and that too, not exceeding some four inches in depth, the ground becomes covered with a thick growth of weeds, ranging from two to four feet in height, which to an eastern farmer would at first sight appear to be an insuperable barrier against anything approaching a profitable course of farming.

The foregoing, and other practices of a similar character, are among the prevailing modes of farming that are tolerated in those regions of country where the alarm of hard times, and the failure of crops, are the most frequent. But it must not be taken for granted that no exceptions to these slovenly operations are to be met with. On the contrary, some of the finest specimens of farm management, are occasionally to be seen, as exist in any of the most celebrated wheat regions of the Union.

Those who have adopted the modern improvements in the cultivation and management of the wheat crop, have, aside from the contingencies always more or less attendant upon the success of this delicate crop, been richly rewarded for their trouble. Where deep plowing, and that, too, when practicable, in autmn, and the liberal cultivation of the clover plant, have been at all extensively practiced, the average product of wheat has been in almost every instance, remunerative. The cultivation of the soil, when done in a through manner, is found to be as productive in profits, in an average of cases, on a prairie soil, as on timbered land. But the great barrier to improvement in this, as well as other countries, may be traced to the fact, that the cultivators of the soil themselves have not been able to trace unerringly, the failures to their true cause, and hence, have not been able to adopt those salutary means of improvement which would thoroughly remove the agencies producing those failures. Occasionally, the severity of the weather, or other causes, present insuperable difficulties that cannot be counteracted by the most skillful cultivator; but on the whole, these may be viewed as exceptions, and not the general rule.

The natural tendency of a rich prairie soil is to be inert, and in order that it may become active and friable, it is necessary to bring to bear upon it powerful mechanical agencies, such as may be easily and cheaply employed by the farmer. Its latent powers, it is obvious, from the long period in which the small particles of the soil have remained buried beneath the surface, too deep to receive any benefit from the action of the rays of the sun, and atmospheric influence, can only be brought into active and profitable service, by those parts being acted upon by winter frosts, thorough cultivation and deep plowing, and by the puncturing operation of tap-rooted plants. The soil of this country contains all the requisite organic and inorganic properties, to fit it for the production of cereal as well as other grains for an almost indefinite period. No one can doubt this fact who will take the trouble to investigate the surface and subsoils to the depth that plants send down, if permitted, by deep tillage, their fibrous roots in search of the requisite food for their growth and maturity. It is the business then, of the husbandman to aid nature in her efforts to supply the human race with the necessaries and luxuries of life, and if he fails in doing this part, the miseries that are entailed upon all ranks of mankind are too obvious to require enumerating.

We hold that deep culture, autumn plowing, a rational rotation of crops, and the extensive cultivation of the clover plant, are among the prominent features that must be engrafted upon the agriculture of the west, in order that it shall take rank among the profitable and pleasurable pursuits of our country. Among the most important of those means for the amelioration of a soil rich in humus, lime, potash, and all the other requisite elements of fertility, are frost and clover. The clover roots ordinarily enter the soil to the depth of from twelve to twenty-four inches, and the frost and air, following the course of these roots, have by a gradual process, a mechanical action upon the soil, to the full depth they puncture the surface, which in due time change its stubborn character, converting it into a finely pulverised soil, adapted especially for the cultivation of the wheat plant. The soil does not require to be enriched by plowing under a heavy growth of clover, as would be found advisable on thin soils, such as are found on the uplands bordering the Genesee valley, but is solely required for the reasons already stated, the proof of which will be more fully illustrated on future occasions, when discussing this and other subjects of a kindred character.

We find the space alloted us for this paper is exhausted, and the items we proposed at the start to have discussed, are of sufficient interest to those who are desirous of becoming acquainted with the capacity of the west, for the profitable culture of wheat, to warrant their further elucidation in the December No. of the Cultivator. *Keokuk, Iowa, Sept.* 1, 1851.

Sketch of Putnam County Farms.

FARM OF LEONARD D. CLIFT.

Editors Cultivator—My time has been so much occupied of late, that I have not been able until now, to perform my promise of giving you a sketch of a Putnam county farm. The one I have recently visited with a view of giving you notes of it, is that of Leonard D. Clift, of the town of Carmel. I will begin by saying a few words of the

Drive to Mr. Clift's.—It was a fine August morning when I left home; the weather was excessively dry, but still the country wore a beautiful aspect for my eyes as in truth it always does. Part of my route skirted the northern extremity of the county of Westchester, and I saw there some fine farms and pretty scenery, to which the clear sunshine and soft summer air lent a peculiar charm. After a ride of some seven miles I reached Lake Mahopac; the suddenness with which this beautiful lake first bursts upon the view of the traveller, is such as to produce emotions in the mind of one who is an admirer of nature, more easily felt than described, and often as I have visited this charming scene it never grows wearisome to me; without the least intimation, upon rising a slight eminence, the lake in all its beauty for a distance of nearly three miles, is before you. I cannot loiter here to tell you of its beautiful islands—of its clear waters—of its pebbled shores, but passing on, ride along its margin for two miles, when the quiet scene that was before me but a few moments ago, is changed to one of busy activity. Here are situated the hotels filled to overflowing with men, women, and children, who have left the crowded city to seek a cool and healthy retreat by the margin of Mahopac. Here too are all sorts of scenes, some rowing on the lake, some fishing, some walking too and fro on its margin, others sitting in the shade of the balcony enjoying their "otium cum dignitate," while umbrellas and large-brimmed hats, both for ladies and gentlemen, told that the wearers were not disposed to brave the piercing rays of the god of day, to which we farmers are exposed. But good bye to the lake. Half an hour more brought me to the

Farm of Mr. Clift.—This consists altogether of about 280 acres of land, 85 of which is woodland, the rest tillable. The soil of the farm was originally a heavy loam, but good culture has made it a rich, deep, light loam. His *home* farm contains 160 acres, and this has been the especial care of Mr. Clift. Thirty-six years ago when Mr. C. first took possession of the farm, its aspect was very different from what it is at present, at least I should judge so from an anecdote he told me. Pointing to a beautiful meadow covered with verdure, he said, that field when I first came here was a swamp, covered with alders and bushes and briers of every description. The first year I was on the place after working my oxen one day till 12 o'clock, I turned them there, intending to use them again in the afternoon, but it was the last I saw of them that day; they got lost in the bushes, and when I found them it was too late to go to work with them. What Mr. C. said of that field, was true of pretty much all the farm—it was both wet and stony. To begin at the beginning and tell step by step the various plans and operations of Mr. Clift, would occupy more space than I can claim in your columns; suffice it to say that every part and portion of the farm, with the exception of about three acres which is yet to be reclaimed, and which is a fair specimen of what the rest was once, has been subdued and brought into a very perfect state of cultivation—indeed it is not too much to say that this farm is a model farm—everything about it speaks of permanence—whatever has been done has been well done. Here are no unsightly hedge rows to be seen, no scattered patches of bushes about the fields—no broken down fences—nothing at odds and ends. It is no idle praise I utter when I say, that go where you will about the farm, you will find a place for everything, and everything in its place. But I must proceed to give something in detail as to Mr. Clift's mode of operation.

Manures.—When I reached Mr. C.'s farm, I found him busy with his men, in clearing out a pond made originally for furnishing ice for his use, but now used also for irrigating some 80 acres of land; in fact the pond answers a three-fold purpose, for besides the two mentioned, it furnishes an abundance of manure from the sediment of the brook, which accumulates during the year. The quality of the manure is good; it is black, and rich looking,—fat and oily to the touch, and as the deposit is only of one year's duration, is probably free from acid matter, and ready for immediate use. His pond has furnished him this season, 160 large loads of manure, which he thinks, for many purposes, fully equal to as many loads of barn-yard manure. Mr. Clift has the same idea of manure that the late Willis Gaylord had, namely, "*with manure you can do everything, without it nothing;*" and he has always acted upon this. His object is to make and save manure in every possible way, and to apply it in such a manner as to do good.

Plowing.—Mr. C. keeps about 20 acres under the plow; he always manures heavily and plows deep—he has never sub-soiled, although he thinks it might be done to advantage on his lands. His crops of corn are usually from 60 to 70 shelled bushels to the acre. Oats about 80 bushels.

Chief Products of the Farm.—Formerly, the farm of Mr. Clift was devoted to the keeping, raising, fattening, &c., of sheep and cattle; but since the opening of the Harlem railroad to Dover, Mr. C. has changed from sheep and cattle, to cows. The farm is now what is called a milk farm—50 cows are kept for furnishing milk, which is taken to Croton Falls, 1¼ miles from the farm, and goes from thence to New-York, per railroad. The milk is contracted for in New-York, and sold at four cts. per quart—cream thirty one cents per quart. Mr. C. exhibited to me his book of sales for milk and cream, for 12 months; they amount to the sum of $3,600.

Cows.—His cows are selected with great care, and are all of them what is called the native breed. Mr. C. prefers them altogether for our climate and part of the country, and thinks them generally superior as milkers. He has an Ayrshire bull four years old, a truly fine animal, which he intends crossing with some of his natives. He prefers the Ayrshires to the Durhams, as he considers them tougher and hardier, and therefore better adapted to our mountainous region.

Barns, Stables, &c.—Mr. Clift's accommodations for stabling, &c., are ample. During the summer the cows are let to roam in luxuriant pastures, but as soon as the cold weather sets in they are provided with good stables, well arranged for convenience, and fed hay, stalks, and slop of some kind, made from buckwheat bran, rye bran, or corn and cob ground together. Mr. C. has but a poor opinion of turneps for milch cows, but thinks carrots a valuable root for them. There are four barns upon the farm, two large and two small ones; the four are capable of holding 100 tons of hay.

Hay.—The quantity of hay cut annually, is from 100 to 150 tons. The time of cutting is when in full bloom. Timothy, red-top, &c., are always cocked the first day, and cured in two days, when the weather will permit. When the hay is stacked or put in the barn, Mr. C. uses about four quarts of coarse salt, and two quarts of lime, well mixed together, to about one ton of hay. The hay I saw certainly denoted care and attention in cutting and curing. It was green and bright, but still entirely free from anything like must.

Fences.—These are entirely of stone—there is not on the whole farm 20 rods of rail fence. The size of the fields are from three to five acres. The walls are all large, most of them are full four feet bottom—some even more; they are all settled in the ground to avoid being thrown by the frost, and to insure their durability.

Irrigation.—This is one of the leading features about Mr. C.'s farm. I have mentioned his pond which was originally constructed for ice—after it was done, a thought struck him that he might (if the altitude of the pond would permit) use the water to irrigate some of his meadows. To the eye it seemed a doubtful matter, (and here let me remark that the eye, even though a practiced one, much less an unpracticed one, should never be trusted in so important a matter, for the formation of the ground, intervening between two points, is often such as to deceive us, and make us think the water would be obliged to run up hill before it could accomplish what we wish,) but a level having been obtained, it was proved to the delight of Mr. C. that the plan was perfectly practicable. It was therefore immediately put into execution, and the result has been the watering of 80 acres of meadow, and the addition of some $300 to his annual income thereby. It is worthy of remark that much of the ground now watered was formerly wet, so much so as to require under-draining; the drains now perform their good work and the land is dry, sufficiently so to make irrigation most valuable upon it.

The plan pursued is as follows: below the flue are three main ditches going in different directions, and from them run smaller ones in such manner as to carry the water all over the fields. Mr. C. generally allows as much of the whole stream as is required for the purpose of irrigation to run in one of the main ditches for eight hours, then changes it to another for about the same period of time, and then to the third. There is an advantage in this—the grass is not kept *continually* wet, and the danger of a too rapid and spindling growth is avoided; when grass on watered meadows grows too fast and falls down, as all know, it is light, hollow, and of little value, but when a steady growth takes place, the value of the grass is equal to that of the best grasses which are not aided in their growth by the use of water. An opinion seems to prevail with some that if the water ceases to flow upon watered meadows from drouth or other causes, they will in consequence become more parched and feel the dry weather more than if they had not been watered at all. This I am convinced is a mistake. I saw at Mr. Clift's some fields, which, owing to the excessive dry weather and consequent low state of the streams, had not had a particle of water upon them for something like six weeks, and yet the grass upon them was rich and luxuriant, and bore a striking contrast to other fields which were out of the reach of irrigation. Nor is it alone at Mr. C.'s I have noticed this; wherever my observation has extended the result has been the same.

General Arrangement of the Farm.—There is upon the farm of Mr. Clift great attention paid to making everything as convenient as possible. Water, that indispensable requisite for man and beast, abounds every where. The house, the barns, the yards, are all amply supplied, and care is taken that at no time shall those supplies be cut off, at least so far as lies within the power of man to provide against the contingencies of drouth, &c. I give the following as an example. Several springs are connected by means of lead pipes, so that in the event of the main spring which supplies the house becoming low, the others are made to flow into it, thus giving an abundant supply at all times.

The arrangement for keeping the milk cool and sweet, between the time of milking and the time of despatching it to the cars, was both convenient and efficacious. A large trough is kept constantly filled with water brought from a spring, through lead pipes, and if required, ice can be added to make the water colder.

An ample ice-house adds much to the comfort and convenience of the household. The milk-house, where the butter for family use was manufactured, was built of stone, and so constructed as to combine convenience and good ventilation. There was one thing which could not fail of attracting my attention, and that was the perfect neatness, both in this and other household departments, which came under my eye, and which fully assured me that Mrs. Clift was a true farmer's wife, and that her duties were by no means neglected.

Reflections.—I have now taken a rapid survey of Mr. Clift's farm; the few hours I was there did not allow me time to make as thorough detailed an examination of everything I saw, as I could have wished, but it may serve to convey to the reader some idea of the cost and labor which has attended the progress of its owner, as step by step, he has brought it from its former wild condition, till it now "blossoms like the rose," and now, perhaps, as that reader, who may be a plain working farmer, with small means, thinks of the ample barns, the large stone walls, and the numerous conveniences, he will say to himself—"Yes! this is all very well, but no doubt Mr. Clift started the world with a handsome sum of money, and money can accomplish many things." It is not my wish here, to bring the private affairs of any man before the public; this, however, I will say, that Mr. C. has made the bulk of what he now possesses from his soil. He is, and always has been, a *working farmer*.

The means with which he started the world, were small, when compared with the end which has been obtained. Mr. C. has always gone upon the principle, that without labor no great thing can be achieved, and he has argued, also, that if he could make his own labor profitable, he could make that of another so, and he has, therefore, never been afraid to hire help when needful.

The sums paid out for labor have been large, and have been met from the profits of the farm. Now, in regard to hiring labor, I cannot but think, that generally, farmers are too much afraid of spending money in this way. If a man neglects his business, does no work himself, and hires men to do for him what he ought to have done himself, he must, of course, make a bad business of farming; but if after doing all he can, he finds things are neglected for want of time, and many things which ought to have been done, are left undone, for want of physical labor to perform them, it is our humble opinion that such neglect will tell against him much stronger than the dollar paid out would have done. One man can perform but a certain amount of labor, and it is folly for him to attempt more than he can perform well—whether the labor be mental or physical. It is a custom with many farmers, when a few dollars more are made than barely enough to support their families, to put it out at six or seven per cent interest, when, had it been invested properly upon their farms, which an inspection would tell stood much in need of it, they might have received 10 per cent for their investment.

Now I am far from recommending the expenditure of money upon a farm by working farmers, for *fancy improvements*; but there is a certain class of improvements which, if judiciously made, will always pay a handsome profit;—good fences, good out-buildings, and all arrangements tending to convenience and labor saving, will be found to pay the farmer a better interest for a while, at any rate, than seven per cent on bonds and mortgages, or money put out on merchants' and traders' notes, who often times make a failure, and rob the farmer of his hard earned gains.

There is one thing that operates much against the improvement of farms in our country, and that is the fact that so few farms remain for a great length of time in the same family. In England and some other countries of Europe, farms remain for years and years in the same family; whether that family is large or small, some one or more of its members takes possession of the homestead on the death of their parents, and works it as formerly. Not so here, even if a man takes the vocation of his father for his own and occupies the same farm, he is not apt to have it long before he is possessed with the idea of "*selling out to go west.*" He will not improve his farm therefore, for he is always *expecting to move*, even if he does not, and he thinks "it will not pay to improve for other folks, for nobody will pay the worth of the improvements;" so that in fact, often times farmers are found to be constantly getting worse instead of better. There is another thing too that hinders improvement, and that is the fact that so many young men leave their fathers' farms the moment they can escape from them. They will do anything else rather than "farm it." Educate a boy and he is pretty sure to go to the professions. I was struck with this when at Mr. Clift's. During some conversation with him, he stated to me that he wished to part with a portion of his farm. I was somewhat astonished at this, as after all the toil and labor of so many years, I thought he was ready to enjoy himself in contentment under the shade of his own dwelling, or wherever else his fancy might lead him. Upon asking his reasons for wishing to sell he stated that his family had never been large, his children were married and settled in life, and his son whom he had educated handsomely with the intention of making him a farmer, had chosen a profession; this left him in declining years to manage his farm alone, and he felt the care of the whole of it was more than he wished for at his time of life. Now this case is by no means a solitary one; others of a similar nature have come under my observation and have often impressed me with a feeling of sadness.

Such is the feeling towards agriculture by many of our young men, that they will go to fill situations in the large cities, in which they must give up all the freedom and independence of the farmer's life and become almost dependants upon the will of others.

In speaking to a friend, but a short time since, about the education of the agriculturist he remarked, "Educate them! why the moment you educate them they will leave the business—they will not be satisfied with its profits;" and this is the general feeling. When an educated man is found in the ranks of the working farmer, men in other callings and professions wonder at his choice.

Now in the name of reason and truth is agriculture such a poor business—does it afford such a poor return to labor and capital, that no man who wishes to live decently and respectably will enter into it, and that every man who has wit enough to get into any other business will leave it? Is it so menial a vocation as to debar from its ranks the man of talent and education? Heaven forbid! If there is a dark problem about it to be solved it must be solved, and it must be solved too by men of talent and education. Certainly no man will deny that the farmer, of all other men, is entitled, or ought to be from his toil, to all the comforts of life which other men have as the reward of their toil.

If other men in other callings are robbing us of our rights and preying upon our very life's blood, it is time that we call together a convention of farmers to know what measures ought to be taken to secure to us our rights. But if upon reflection we find that we are receiving a fair compensation for our labor and our capital, or that if we do not receive it the fault is our own, and comes from a want of knowledge or skill in our business, let us seek by a more thorough education, both practical and scientific, to acquaint ourselves better with whatever of agriculture we are deficient in. That every man can become rich in any occupation is not to be expected, or even desired, but that the farmer can by industry, energy, and skill, make for himself a handsome competency we believe, and the experience of such men as Mr. Clift fully proves it to us. Very truly yours, H. C. W.

Putnam Valley, N. Y., Sept., 1851.

The Canada Thistle.

On a recent visit to several counties in the state of New-York, I was surprised to observe the great extent to which the Canada thistle had spread since my departure from this region, thirty-four years ago. At that time, this pest of the farmers was scarcely known; now it seems to be an almost universal occupant of every part of Albany, Rensselaer, Schenectady, and Saratoga counties,—the only counties visited by me,—and I presume of every northern county in the state. Why is this permitted? I saw many of the fields pretty well cleared of it, but in every part visited by me, the road-sides were completely occupied by them, as if these places were reserved by the public as nurseries, to ensure a supply of the pest for all the neighboring lands. I was delighted beyond measure with the wonderful improvements in agriculture, everywhere exhibited; such crops were never seen in my day, in that region; such an appearance of universal thrift, of healthy and prosperous industry, I confess I did not expect to find, even in that hive of busy enterprise. But my picture of rural happiness was bordered and sprinkled—as if intended for embellishment,—with the horrible hedge-hog pest of the Canada thistle, and illuminated brilliantly by the ox-eye daisy. This was not so in my time. Perhaps we then did not possess the cultivated taste enjoyed by our more enlightened successors. Perhaps we were not then thought worthy of a visitation from our northern neighbors. But one thing I well remember. It was a standing rule, a Median and Persian law, that every member of the farm operatives was required to exterminate every pestiferous plant that he met with on the farm or on the road-side—"cut it down, why cumbereth it the ground," was the sentence passed and executed. Had this rule been universal, the Canada thistle would not now have been the theme of comment by every one. The fault seems to be in each man only looking to his own fields, and every body allowing the road-sides to take care of themselves, forgetting that a single plant on the road-side, will replant many fields with its seeds, for miles around it. It is of little use to exterminate the pest in the field, if neighboring plants be allowed to grow.

This evil has now become so great, that the exertions of individuals here and there will be of no avail. Nothing but hearty, unanimous co-operation, can accomplish the object. The whole people must act simultaneously. They should set apart certain times from the middle of June to the middle of July, when every body should turn out and make an exterminating war upon the Canada thistle. They should be cut off close to the ground, not so deep as to touch the roots, and the tops gathered into piles to dry, and then burned. Not only the fields should be thus cleared, but all high-ways and bye-ways should be thoroughly cleared. After this general campaign is accomplished, the whole people should form themselves into a guerrilla band, and make individual war upon any thistle that shows its head above ground, wherever met with. This plan would, in a few years, rid the country of this pest, and nothing else can. For, as before remarked, if a single person in a township neglect his duty, every farmer in the township will suffer from it. A single plant, left on any farm or road to mature its seed, will send the seeds to all the fields for miles around.

The reason why the Canada thistle should be cut off close to the ground, and not disturbed in the roots, is, the roots, every part and portion of them, are furnished with latent wood-buds, which on the roots being cut or broken immediately begin to grow, and thus a new plant will be found for every piece of root, however small, that may be left in the ground. Thus to dig them up is simply to multiply them. But, if the roots are not cut or broken these latent buds never grow, and the whole remains a single plant. Now all plants require the use of the leaves; they serve the purpose of lungs; and if these are continually destroyed for a sufficient length of time the root must perish. Cutting off the top, the whole plant above ground, will accomplish this. I admit this is merely theory. I have had no experience with the Canada thistle. But it is *a* theory that I do not suppose can be refuted by practice. With all other plants of this peculiar nature I have found it effectual, and with all plants that have not those peculiar roots, a single cutting off at the top is certain death.

Whether the simultaneous movement of all the people can be accomplished and by what means, is a question. I fear nothing but legislative enactment could do it. There are always too many idlers and careless persons in all communities to admit of absolute unanimity in voluntary and persevering action in such a work, and nothing but such unanimity and action can ever accomplish it. Republican as I am, I for one would rejoice to see the people forced into their own good by the most strict law the legislature is capable of passing, and I do believe the legislature of any state in the Union possesses the power to compel any man in the state to destroy such pests; because, those who do not destroy all on or near their premises are fostering a nuisance that is highly injurious to their neighbors, and this no man has a right to do even by the common law.

I have writen this without knowing whether the subject has been sufficiently discussed in the Cultivator of late years or not. I presume so interesting a subject could not have escaped attention, and most probably all the suggestions I have made have already been proposed. If so the editor will excuse the trouble I have given him and throw these sheets aside.

The same plan of destruction should be pursued with the Oxeye daisey, except that it is infinitely more easy to effect the object. In the case of both Canada thistle and daisey, the dried plants should be burned, for the seed will ripen if either is in bloom at the time it is cut down, and if not burned they will be sure to make new and extended plantations.

I also observed at Saratoga Springs, especially in the neighborhood of the High Rock Spring, a great abundance of the *Conium maculatum*, the hemlock of the ancients, the deadly poison of all times. At the locality indicated, it is permitted to grow even under the windows of the houses, by the roadsides, and in all open spaces, and children were playing among the deadly plants, as carelessly as if they were among rose bushes. It does seem to me that the people should put a full stop to this growth. They can easily do so by cutting up and burning the tops while in bloom, two or three seasons successively. Yours, GIDEON B. SMITH.

Premium Cows in Massachusetts.

It is of importance to be able to compare the properties of animals in different sections of the country, in order to judge of their relative value. To make a strictly accurate test, it would be necessary that the animals should be placed in circumstances precisely similar. If the question related to cows, it would be desirable that they should be of the same age, should have calved at the same time, and should have received the same treatment for several months before the trial commenced, and while it was continued. But in the absence of any such accurate trials, we must avail ourselves of the results of such as make the nearest approximation to the desired point. With this view, we have taken some pains to obtain from the *Transactions of the Agricultural Societies of Massachusetts*, for the year 1850, the following facts in relation to the produce of butter by cows which received premiums in various counties in that state. We have directed our attention only to the quantity of butter yielded by the different cows, believing that to be the fairest indication of their value. Premiums were in many instances, awarded for the quantity of milk which the cows gave, in a specified time, but we have generally omitted any mention of these, as, except in cases where milk is sold, the test affords no reliable criterion of value. In many instances, neither the breed or age of the cow is mentioned in the reports; but we have given them where practicable, and also the time of their calving. The keeping of the cows was generally pasture feed only. It is not necessary to say that this varies greatly in value, according to the amount and nutritiveness of the herbage; at the same time it is no more than just to say that the pastures of Massachusetts will not compare in luxuriance with those of New-York, or some other sections.

Warren Averill, Ipswich, exhibited two cows at the Essex county show. One of them, from January 1st to May 20th, 1850—(140 days,) yielded 198 lbs. of butter. During this time it took eight quarts of her milk for a pound of butter; the last week in June, it took a trifle short of eight quarts to the pound. Another cow, owned by the same person, five years old, ("native,") calved August 27th, 1850, gave from 18th to 25th of September, (one week,) 111 quarts of milk, which afforded 12 lbs. of butter.

Wm. S. Lincoln, Worcester,—cow eight years old—calved April 30th, 1850. From June 1st to 9th, afforded 17 lbs. 12 oz. of butter. The same cow gave in the first nine days of Sept., 12 lbs. 12 oz. butter. She also gave from May 16th to Sept. 10th, (117 days,) 170 lbs. 12 oz. butter. Gave in "flush of feed," 16 quarts of milk daily.

John N. Whitney, Princeton,—cow six years old; calved March 20th, 1850. From June 1st to 9th, gave 15 lbs. 12 oz. butter, and from September 1st to 9th, 10 lbs. Another cow owned by the same person, produced from June 1st to 9th, 17 lbs. 12 oz. butter.

Henry J. Reed, Princeton,—cow calved April 26th, 1850. From June 1st to 9th, gave 14 lbs. 4 oz. butter, and from 1st to 9th September, 9 lbs. 4 oz. Another cow owned by the same person, gave in the same time in June 16 lbs. 14 oz. butter, and same time in September 11 lbs. 12 oz.

N. T. Leonard, Westfield,—cow seven years old ("native,") calved August 25th, 1850. In ten days in September, gave 19 lbs. 13 oz. butter.

Benj. H. Stedman, Chickopee,—cow eight years old, ("native,") calved February 21, 1850. In ten days in March, gave 19 lbs. 4 oz. butter; and from 10th to 20th of June, 17 lbs. 12 oz. During the time first mentioned, the average weight of the milk was 41 lbs. 4 oz. per day, and during the latter time, 34 lbs. 4 oz. per day.

J. M. Montgomery, Great Barrington,—cow calved April 10th, 1850. From 1st to 10th July, she afforded 17 lbs. 10 oz. butter; from 1st to 10th September, 16 lbs. 2 oz. The average weight of the milk at the trial in June, was 41 lbs. per day. Her feed during both trials, was grass only.

W. W. Hallenbeck, Great Barrington,—cow calved July 20th, 1850. From the 1st to the 10th of September, she afforded 17 lbs. 8 oz. of butter; from 11th to 20th, 19 lbs. 6 oz.—weight of milk averaging 36 lbs. 8 oz. per day.

John G. Wilson, West Stockbridge,—cow calved April 1st, 1850. The second week in June she gave 14 lbs. of butter; the first ten days of July, 18 lbs. 8 oz.; first ten days of August, 16 lbs.; first ten days of September, 14 lbs. 14 oz. Feed, grass only.

B. A. Race, Egremont,—cow yielded in the first ten days of June, 14 lbs. 11 oz. butter; first ten days in July, 13 lbs. 12 oz.; first ten days in August, 11 lbs. 8 oz. She was pastured in the highway all the time, and was fed with two quarts of "provender," (corn and oats ground together?) per day.

Stephen Karner, Egremont,—two-year-old heifer,—calved 23d May, 1850. In the first ten days of June, she afforded 10 lbs. 6 oz. of butter; first 10 days of July, 10 lbs. 14 oz.; first ten days of August, 10 lbs. 2 oz.; first ten days of September, 9 lbs. 6 oz. Her feed, the whole time, grass only.

To the above we may add, that S. G. Atherton, Harvard, Mass., states in the *Massachusetts Plowman*, that he has a "Durham cow, nine years old, which calved in April," and gave in the first seven days of July, 278 lbs. of milk, from which was made 13 lbs. 8 oz. of butter. He says he has another cow, (breed not mentioned,) six years old, which gave in the same time 259½ lbs. of milk, which gave 12 lbs. 9 oz. of butter; and a three-year-old heifer, which in three days in June, gave 4½ lbs. of butter. The feed of all during the trial, and for some time previous, pasture grass only. He states that these belong to a lot of twenty-four cows, all running together.

Fashion makes foolish parents, invalids of children, and servants of all.

Trust him little who praises all, him least who is indifferent about all.

On the Value of Results Obtained by Comparative Analyses of Soils.

Analytical Laboratory, Yale College,
New-Haven, Conn., Sept. 24, 1851.

Messrs. Editors—In my last letter, when commencing the illustration of this subject by tables of analyses, I observed that the results there given, were not intended as examples of complete anylyses, but only as having been made for a certain purpose. They may, in fact, as some most important substances were neglected, be called somewhat rough analyses, and as such, may, in some quarters, be looked upon with suspicion; it may even be said, that if the examination had been very minute and critical, much of what now seems different, might have been reconciled, or that the points of coincidence in certain cases, would have been less distinct.

In order to throw light on this point, I will insert here two very elaborate analyses of cotton soils from Mississippi. These analyses were made in my laboratory some time since, by Messrs. Emie and Brewer. The soil A. is from land which now produces fine crops of cotton; the soil B. has been worn out by cotton cropping, and the produce has diminished very greatly. They are of the same character of land, on the same plantation, and were doubtless originally alike in composition. The following results show the differences which now exist.

		Soil A.	Soil B.
	Organic matter,	4.740 pr ct.	6.290 pr ct.
Portion soluble in water. A. 2.470 per ct. B. 0.147 per ct.	Silica,	1.290	0.072
	Alumina, iron & phosp'ic acid,	0.238	0.018
	Lime,	0.180	0.020
	Magnesia,	0.090	none
	Manganese,	0.034	none
	Potash,	0.248	0.120
	Chloride of sodium, (com. salt,)	0.107	none
	Soda,	none	0.015
	Sulphuric acid,	0.144	0.009
Portion soluble in acid. A. 4.06 per ct. B. 5.19 per ct.	Silica,	0.409	0.980
	Alumina,	1.644	1.800
	Iron,	1.448	0.670
	Lime,	0.535	1.240
	Magnesia,	0.576	0.080
	Manganese,	0.062	none
	Potash,	0.345	0.070
	Soda,	none	0.180
	Sulphuric acid,	0.070	0.080
	Phosphoric acid,	0.092	0.003
Portoin insoluble in acid. A. 67.83. B. 88.373.	Silica,	78.845	84.930
	Iron and alumina,	5.946	2.370
	Lime,	1.098	0.260
	Magnesia,	1.142	0.680
	Manganese,	0.623	none
		100.060	99.867

For the purpose of affording all the insight possible into the nature of the differences between these two soils, the portions soluble in water and acid have been examined separately. The substances soluble in water, represent those immediately available for the wants of the growing crop. The substances soluble in acid, represent the amount that will soon, and is constantly more or less rapidly becoming soluble, so as to enter the plant. That which is most difficultly soluble in acid is undergoing in the soil a gradual decomposition, which is continually and successively bringing small quantities into a condition fitted for the nutriment of plants. The last portion, that which is insoluble in acids, is almost always by far the largest, as in the present case. Even this insoluble part, does not remain unchanged; there are certain influences in the soil which slowly act upon it, and bring, though very gradually, small portions into a soluble state.

Thus, then, we look under the first head for that which will affect the present crop; under the second, for a supply which will be partially available by the next year; and under the last, we see stores which will ultimately come into use, though not to be considered as producing much effect at any one time.

Following these principles, we perceive that the soil A. has 2.470 per ct. soluble in water, while the soil B. leaves no more than 0.147 per ct., or about one-17th as much. Of magnesia, manganese, and chloride of sodium, there is none; of the phosphates almost none, and of the sulphates almost none. The alkalies, too, are not much more than one third, and lime but about 1-50th. These are most striking and important differences, and show very clearly how little the plants in the soil B. have to depend upon for their immediate sustenance, when compared with those in the soil A.

If we also compare the portions soluble in acid, we find that B. has more which is capable of solution, than A. On closer examination, however, it appears that this superiority is chiefly owing to the fact that a larger per centage of iron and alumina, that is of the less valuable substances, has been dissolved. Lime is also in greatly increased quantity, but magnesia is much diminished, the alkalies are smaller, and phosphoric acid is but about 1-30th.

In the last, or insoluble part, we still find the superiority with the soil A., by reason of its far greater per centage of lime and of magnesia. This soil. then. is superior in every respect,not only in its supplies for immediate use, but in its stores for the wants of future crops. It is, however, in the water solutions, that the most striking difference is manifested. By comparing these in the two soils, the inference may be at once drawn, that the soil B., through constant and long continued cotton cropping, has been specially exhausted of its *alkaline phosphates*. The same kind of exhaustion is apparent, although in a less degree, in the portion soluble in acid.

A rough analysis of these soils would not have given satisfactory results, for the quantities in which the most decisive differences are shown, are the least of all, and could only be determined accurately in a very carefully conducted analysis. These determinations are all verified, and therefore afford as they stand, a beautiful illustration of the proposition with which this letter commenced; that the carrying of our results to even very minute accuracy, only brings out the more striking differences, and gives us new confidence in this department of chemical anlysis.

From the study of these analyses, I was led to the conclusion that the cotton plant drains heavily upon the *alkalies* and *phosphates* of the soil, and therefore recommended the application of manures rich in these substances, to the soil B.

Since that time Mr. O. Judd, has made in my laboratory, an analysis of the ash from a cotton stalk, procured by him in Mississippi. His results being all duplicated, must approach very closely to the truth. The quantity of ash found by him was 3.141 per cent, there being nearly half a per cent more in the top than in the bottom of the stem. The results of analysis give the following as the composition of this ash.

ASH OF MEXICAN GREEN COTTON PLANT.

Charcoal and Sand,	3.76
Silica,	2.64
Lime,	19.82
Magnesia,	3.04
Carbonic acid,	14.32
Phosphoric acid,	28.40
Chlorine,	0.63
Sulphuric acid,	2.88
Potash,	24.09
	99.48

This is an examination of but a single stalk, and a single variety of cotton, but it is nearly certain that other stalks, and other kinds, although there may be a certain range of difference, will yet agree with it in their chief features, and in the character of their leading substances We may then with much probability, consider this analysis as presenting the general composition of the cotton stalk. A glance at the column of per centages, will show, that the predominating ingredient is the alkaline phosphates; the phosphoric acid and the potash together, amount to 52½ per cent. If we substract the sand and charcoal, which are accidental impurities, this proportion will be still farther increased.

We have here only the ash from the stalk; that from the seed would beyond a question show a still larger proportion of alkaline phosphates; these then are clearly, so far as our present knowledge goes, the leading substances in the ash of the cotton plant. This agrees precisely with the conclusion I had previously formed, from the comparison of a worn out and a fresh unexhausted cotton plantation.

The two tables compared above, point with perfect distinctness to the same thing, and while they thus agree in the indication of a most important fact to the planter, they support each other in the vindication of properly conducted, minutely followed, and even elaborate soil analyses.

Such analyses will doubtless present more problems than those that are less complete, and will require a wider range of knowledge for their entire comprehension and explanation; but at the same time they furnish to the instructed eye, data which lead to the most valuable conclusions, and also help to extend the range of our really *scientific* agriculture. Yours truly, JOHN P. NORTON.

GROWTH OF WOOD.—The season of the year in which forests are cut off, is believed to have an influence on the succeeding growth. To give some test of this matter, the Plymouth county (Mass.) Ag. Society, offered premiums, several years since, for experiments. A report was made last year, which sets forth the conclusion that—"the nearer the season of the ascending sap, [spring,] wood is cut, the more flourishing will be its succeeding growth." The person who received a premium for this experiment, states that he is "satisfied that the nearer the ground wood is cut, the better; the shoots will start and grow more thrifty, and are thicker and less liable to split down. By cutting wood often, you insure not only the greatest growth of wood but the greatest growth of money. Cattle should never be suffered to run on a wood-lot, while the trees are small."

Mixing Plaster and Manures.

Editors of the Cultivator—In the July number of your paper, I notice an article on "Mixing Plaster and Manures." Having had some practical experience in this matter, I will give you the result of it, with my views upon this question.

Several years since, I procured a cask containing 500 lbs. of ground plaster. This was placed in an out-building, where it remained one year, during which time, two or three barrels of urine were poured upon it, a few quarts being applied every day or two. After it had stood a while, by mixing a small particle of the saturated gypsum with an equal quantity of quick lime, and rubbing the two together for a short time, a great escape of free ammonia would follow; and if inhaled by the nostrils it was sufficiently pungent to draw tears, even from the eyes of a stoic. A portion of the ammonia, I presume, was in the form of sulphate, and another in that of carbonate, merely absorbed and retained mechanically, as would have been the case, if the urine had been poured upon clay or loam. At any rate, the amount of ammonia at the end of the year, in the gypsum, was very large, and nearly the whole mass being mixed with the compost heap, exhibited favorable results upon my crops. It will be observed in this case, that a great quantity of water or liquid was used, which served to decompose the plaster. For several winters past, I have almost daily strewed a few quarts of gypsum on my hovel floors, which are nearly water tight. In one of my hovels, where ten head of cattle are kept, I can readily tell in the morning, by the smell, whether plaster was applied or not. For when this has not been strewed over the floor, a very strong odor of ammonia is present, which is absent if gypsum has been used. In this respect my experience differs from Mr. Pusey's. Still, I think from the insoluble nature of gypsum, it has not the quality of *fixing* a very large amount of the ammonia in the solid part of manure. In the rear of my cows I have a water-tight gutter. In this trough the urine is saved, when no litter is used to bed the cattle. If plaster is sprinkled in it, the next morning the liquid in the gutter will be covered with a thin pellicle of carbonate of lime. In this case, the large amount of liquid dissolves or decomposes the gypsum—resulting in sulphate of ammonia and carbonate of lime. The power of plaster for fixing the ammonia in manures, under all circumstances, I think has been greatly over rated. Every body knows, or ought to know, that if newly slaked lime, or unleached ashes, are thrown into the vault of a privy, a great escape of free ammonia ensues. The reason of this is now generally understood. If dry gypsum is used for the same purpose, it has a precisely similar effect, though perhaps in a less degree. Any one having a few quarts of plaster, can test the truth of this at any time in their backhouses. The foul stench arising from a vault, is caused by the decomposition of sulphur, carbon, and phosphorus in the fecal matter, and their union with hydrogen. But when lime, ashes, or *plaster*, are thrown into the vault, the liberation of free ammonia overpowers or destroys the other foul gases, by the greater pungency of the ammonia, and thus everything is apparently rendered sweet.

Gypsum *will* liberate the ammonia from night-soil; doubtless it will have the same effect when mixed with guano. A few weeks since I poured three buckets of putrid urine upon a barrel of unleached ashes, and immediately covered the whole with three inches of finely ground and moist plaster; this I pressed down hard with a trowel. The volume of ammonia eliminated was enormous. The plaster had no more effect in arresting its flight, than a fish-net would have had drawn over the barrel. In regard to the economy of mixing gypsum with manures, I have come to the following conclusions: It will, in some degree, convert a portion of the carbonate of ammonia to a sulphate, or more volatile salt. It will mechanically absorb some; and when mixed with manure, is an easy and cheap mode of applying it to the soil. As far as my experience goes, land dressed with gypsumed manure, is remarkably favorable to a rank growth of clover; and in some sections of the country, a good clover-ley is believed to lie at the foundation of successful farming.

I have recently procured a copy of Prof. Norton's Elements of Scientific Agriculture. In looking it over, I find at page 98, he recommends that the pasty mass of bones dissolved in sulphuric acid, should be mixed "with a large quantity of *ashes*, peat earth, or charcoal dust." If wood ashes are mingled with the fine bone-dust of a button-mould factory, there will be a very great escape of ammonia. Would not the same effect be produced by mixing ashes with the dissolved bones?

At page 107, in sowing guano, he says, "it is best to mix with *ashes*, sawdust, peat, &c."

Unleached ashes will set the ammonia of guano free, as readily as the hydrate of lime. At page 111, it is put down that in "100 lbs of carbonate of lime, or common limestone, are 44 lbs. of water." This is, doubtless, a typographical error. I trust Professor N. will believe I have referred to his book, simply for the purpose of eliciting correct agricultural knowledge, and not in the spirit of criticism.

While my pen is in hand, suffer me to say to your correspondent, W. C. A., of Tioga, who complains of the "fire-fanging" of his sheltered manure, that if he will keep his hogs or young cattle upon the pile, or in any other way tramp it down solid, so as to exclude the oxygen of the atmosphere, he need fear no bad result from sheltering his dung. Does the manure in a sheep hovel heat and mould when trodden down solid by the sheep? No. The same rule will apply to the droppings of cattle when treated in the manner pointed out above. Levi Bartlett. *Warner, N. H., August* 5, 1851.

Trotting Horse Trustee.—A correspondent of *Frazer's* [London] *Magazine*, describes the trotting gelding Trustee, celebrated as having trotted, in harness, twenty miles in an hour. He was got by the imported blood-horse Trustee, who was also the sire of the running mare Fashion. Of the gelding, the writer says—"The old chestnut is half-blood; but you would never guess it, so chunky, and thick-limbed, and sober is he. His action is uneven, and seemingly laborious; you would not think him capable of covering *one* mile in three minutes, much less of performing twenty at the same rate."

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Secret of a Great Improvement.

Three agencies have been at work for several years past, in extending to a prodigious extent the planting of fruit trees. One is agricultural publications; another is horticultural exhibitions; a third is the money offered by fruit-dealers in market. There is still another, which to most persons remains a profound secret, (judging from their actions,) although it is comprehended and carried out with great success by a few. If this secret were but well understood, generally, it would certainly give an impetus to the culture of fruit, such as it has never yet received.

It consists simply in a full appreciation of the truth, that *fruit trees, through all stages of their existence, need care and attention*. The gardener, who plants cabbages, melons, and celery, knows that he will get rather a scant reward for his labor, if he takes no further care of them after they are planted; and the farmer who forgets to hoe his corn, potatoes and carrots, will be reminded of his negligence in due time, when the day of need approaches. But a different feeling seems to have fastened on the minds of a great many who set out fruit trees. They appear to take it for granted, that when this is done their labors have legitimately ended, and that nothing now remains but to await their time, and partake of the fruit. Talk to them of watching over and taking proper care of their trees, and they regard it as a grievous burthen that we are about to impose upon them. Show them by actual results that a peck of peaches may not only be had more cheaply, but much better in quality, by reasonable care, and they will perhaps admit it for a moment, but their subsequent practice shows that it was only a floating thought. We see the effects of this mistaken notion in the multitudes of feeble and sickly young trees, enveloped in weeds and grass; in the fruitless plum and apricot trees, which have lost abundant half grown crops by the sting of the curculio; in the destruction of loads of reddening cherries, swept off by flocks of the cedar bird; in the mice-girdled apple trees, the black-knotted plums, the blight-stricken pears, the thriftless peaches, dwindling in premature age, from a want of pruning, or dying of yellows. It is no wonder that many without orchards are deterred from planting by such poor examples, or those who have them, from renewing them, by such discouraging results.

On the other hand, one good example of careful and successful culture,—one orchard or garden filled with clean, thrifty trees, well loaded with delicious fruit, often has a wide and beneficial influence, although the owner may be sometimes pointed at as the "*lucky man*, whose trees seem always to grow better than other people's trees," forgetting the old axiom, that "diligence is the mother of good luck."

Pomological Meeting at Rochester.

During the late State Fair, two very interesting evening meetings were held at the City Hall in Rochester, for pomological discussion. They were attended by some of the best practical cultivators in the country, and were of much interest to fruit cultivators, as all such meetings must be where so much experience is brought together.

The first evening was occupied in discussing the merits of the *Hawley*, *Northern Spy*, *Wagener*, *Melon*, and *Early Joe*, new varieties of the apple of considerable celebrity in Western New-York.

The HAWLEY was generally admitted to be a fine apple, but subject to specks of bitter rot, which sometimes lessen greatly the value of the crop. On the rich soils of Cayuga county and some other localities, large trees, long in bearing, were stated to have succeeded well and to have borne uniformly fine fruit, while on light soils, its success had been uncertain. Instances, were however given, where it had borne excellent crops on light soils. The convention finally concluded to regard it as a fruit of high quality, but the best soil for its perfection as not yet fully determined.

The NORTHERN SPY, as was to be expected, excited much interesting remark. It had borne finely at Buffalo, besides in its native region, and with fair cultivation (not with the total neglect received by most of our orchards,) will produce good crops. B. Hodge, of Buffalo, said he would not be afraid to plant out thousands of trees for orchard. L. F. Allen said that if farmers would cultivate them as well as they did their potatoes, they would find them one of the best of apples. He found that the upright compact heads were improving as they came into bearing, the loaded branches bending outwards and producing a handsome form. These favorable opinions were in accordance with the general voice of the meeting; a caution was however given, that nearly all the favorable experience had hitherto been with comparatively young trees; and in its tardy bearing, the variety was unfavorably contrasted with the Baldwin—an evil however of only short duration.

The WAGENER did not elicit such general commendation as the Spy. It was admitted to be an excellent bearer, and by some was regarded as of the highest quality as a winter and spring apple, while others did not rate it quite so high. On the whole it was concluded that present information was not extensive enough to recommended it for general cultivation, but only for extensive trial.

In connexion with this fruit, and the caution needed for new varieties, an interesting anecdote was related by P. Barry, showing the eagerness of some for untried fruits. A man had purchased a pear tree of a new and highly vaunted sort. But before it bore, this sort fell into disrepute, and he at once re-grafted it with a more reputable variety. But this reputable variety was laid aside by one of the Pomological Conventions, and he now has the third sort growing upon its root, without having as yet seen the fruit from either.

The MELON, or Norton's Melon, was not largely commented on, but was regarded by those who spoke of its merits, as an exceedingly pleasant and refreshing fruit—the tree of slow growth, but a good bearer—the fruit keeping through winter, but often lessened in its keeping quality by injury in gathering, from its texture. It was recommended as a good apple for family use.

A similar value was accorded to the EARLY JOE, an early autumn fruit, possessing much delicacy and richness, and an exceedingly agreeable flavor, and great bearer. But it must be eaten at the moment it is at its best state, and it nearly always becomes poor when sent to long distances.

THE SECOND EVENING was occupied with the discussion of the PEAR BLIGHT and the CURCULIO. In relation to the former, it was generally admitted that the knife was the best remedy—*thorough*, *prompt*, and, if needed, *repeated* excision generally proving effectual, except in very virulent cases. Some trees, it was stated, had been repeatedly attacked with blight in different years, and by cutting had been saved, and were now in a healthy bearing condition. In other cases, the disease had been so severe as to destroy the tree at once. Sometimes, as Dr. Warder of Cincinnati observed, the blight first made its appearance at the foot of the trunk, when of course no remedy could be applied. When severe, the disease was generally regarded as contagious.

As to its immediate cause, nothing satisfactory was claimed by any one. Like the potato rot, the more extensive and minute the observations, the less appeared to be ascertained. P. Barry strongly advocated the insect theory; but as no insect was ever seen,* and as all other injuries or poisons to vegetables by insects are quite *local* in character, the evidence was regarded as too slender to support this theory, and the convention did not favor it.

For the *Curculio*, the best and most certain remedy was conceded to be *jarring down on sheets*, while the confinement of pigs and poultry was a valuable auxiliary, and where the insects were not abundant, sufficient in itself; the trees being protected from the pigs by stakes or twigs of sweet-briars. It was stated that a chief reason why jarring had sometimes failed was the softened pounders used for striking the tree. A small limb should be sawed off, leaving a short stump, against which a sharp sudden blow may be given by a hammer or axe, without any injury to the tree. A quick sudden blow is necessary to loosen at once the hold of all the insects. The use of lime had been found both troublesome and ineffectual, the least chafing between fruit and leaves being sufficient to wear off small portions of the lime, through which the insect quickly punctured the skin.

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The Black Ant.

Complaints have been frequently made, of the black ants which infest gardens; and various plans to expel them, have been proposed. I doubt however, if *expulsion* is the best remedy. If we drive them from their nest, by rendering it uncomfortable, they generally, if not always, make another very near, so that nothing is permanently gained by the process.

Instead of expulsion, I would therefore propose *extermination;* and this may be easily effected by placing near them, *a basket of ripe apples*. If one finds it, the whole nest is quickly apprised of the discovery; and while feasting they may be quietly carried to the water, or crushed—by letting out only a few at a time, on a barn floor. This morning I carried off more than a hundred at once. D. T.

Good Vegetables and Small Fruits.

EDITORS CULTIVATOR—I have, after carefull observations, for a term of years, come to the following conclusions:—

1. That the *best table* pea, is Hair's new mammoth Dwarf Marrow, combining dwarf size (two feet) with great productiveness and *unequalled richness*. Darey Marrowfat is the largest pea I have ever seen, but Hair's is only next in size, and superior in other respects to that and the Victoria marrowfat, and some dozen other of the choicest peas from the London market, which I have proved. I prefer the Early Emperor pea to any other early Pea. The Champion of England is fine, but only a week or two earlier than Hair's, and decidedly inferior in all other respects. I obtained Hair's Dwarf Pea from Thorburn, N. Y., two years ago, and the Darey Marrowfat from a friend who left London in February last.

2. I cannot tell whether the Early Shaws I received from Columbia County, or the premium Potato of Mr. Smith of Buffalo, at the State Fair at Syracuse, is the best early potato. They have both proved earlier this season in my garden, than the ash-leaved kidney, and are both of very superior quality and size.

One of Mr. Killam's seedlings, from Mexico, N. Y., I rather think surpasses in quality the Carter, or any other potato I have tried, and is almost as early as the two first mentioned, and is decidedly the finest potatoe I have ever seen.

3. We still prefer the Celery, or as thought to be, the Curled Silesia Lettuce, to any other of the more celebrated varieties. It has a finer flavor, and retains it better with us than any other variety.

4. We have monstrous gooseberries in my garden this season—larger than Crompton's Sheba Queen, but none that at all compare with it in flavor.

5. All my strawberries have done well this season; but Burr's new Pine has surpassed all in flavor and productiveness. We will see how it will compete next season, with "Walker's Seedling" which I have just received, and McAvoy's Superior, and some other new kinds.

6. Rivers' New Giant Raspberry has been the most productive berry of this kind on my ground; but being only the first season of trial, it ought not to be considered conclusive. The Ohio Everbearing has fruited for its second crop, which the large fruited monthly has not done as yet. The large American White bears largely, and is a strong grower. R. G. P. *Palmyra, N. Y., Sept.*, 1851.

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ADVANTAGES OF DRAINING.—Edward Brooks of Boston, stated at one of the Agricultural meetings, that after thoroughly underdraining a piece of wet ground, the soil not only became firm so as to bear a team, but that the crops may be started a fortnight earlier.

PAINTING ROOFS.—The roofs of all buildings should be painted of as light a color as practicable. Dark colors or black, absorb the sun's rays, warp the shingles, and render the garret and upper rooms uncomfortably hot.

HYDRAULIC RAM.—J. J. Conet states in Moore's New Yorker, that he erected a water-ram which sends water 62 rods, at the rate of 15 gallons per hour, to his house and barns, elevating it 100 feet.

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* These remarks not applying to the injury by *Scolytus pyri*.

A Question about Young Fruit Trees.

Two years ago I had a small orchard set out by an unskillful workman. Some of the trees were planted from four to six inches deeper than they stood in the nursery. Consequently they have grown very little. Would it be a good plan to take up these trees and reset them in the fall or next spring? Or is there some way of forcing new roots to start near the surface? An answer through the Cultivator would greatly oblige, **An inexperienced Fruit-grower.** *Steuben, Aug.* 14, 1851.

[If, upon examination, these trees have not sent out a new set of roots nearer the surface, which is by no means probable, then the best course undoubtedly is to re-set them no deeper than they stood in the nursery. If done the present autumn, it would be prudent to bank up around them several inches till spring, not only for protection against mice, and stiffening against the wind, but for shielding the tender and newly uncovered bark from the severity of the winter.

Many trees are injured or destroyed by setting too deeply. A better practice is to dig very shallow holes or no holes at all, and to set the trees nearly or wholly on the surface, making a broad mound over the roots. This is the best treatment in all cases where the soil is rather wet or heavy. Ed.]

Disease in Fruit Trees.

Can any of you fruit growers give information respecting a disease which has caused the death of several of the apple trees in my orchard during the past two years, and is new in this section of country? It attacks vigorous, growing young trees, from eight to ten inches in diameter, about the middle of 7th month. The first appearance of the disease is, the bark for about a foot from the ground turns black, and upon examination I found that portion of the trunk and the roots entirely dead, devoid of all sap or any appearance of life—the rest of the tree retaining its vitality and maturing autumn fruit as usual. By the ensuing spring, the trees die. At first, I attributed it to the 'borer,' but upon the closest scrutiny I could find no symptoms of their presence. The ground is in a high state of cultivation, and is occasionally left to grass. J. M. *Quakertown, Pennsylvania.*

Correction.

Mr. Editor—I regret to be under the necessity of correcting the statement I made to you some few weeks since in my garden, that tanner's oil was a remedy for the black ant among my strawberry vines. It certainly seemed to be at the time, and for a week or two thereafter the remedy appeared to be perfect. But alas! the ants have returned to the same plants, and besides I find the oil results injuriously to the plants.

I am now trying a weak solution of the sulphate of potash, or a slight sprinkling of it pulverised, with some encouragement as far as I have observed its effects, but my continued acquaintance with the habits of the ant, (for it is the greatest pest I have,) will caution me against concluding from any present hopeful appearances that he can be effectually driven off with it.

The sulphate of potash decidedly invigorates the plants. **R. G. Pardee.** *Palmyra, July 7th,* 1851.

Cultivation of the Blackberry.

Eds. Cultivator—I enclose you a slip from to-day's N. American (of this city) relative to the culture of the blackberry near Boston. I am very desirous of obtaining some information about this matter, and not being a subscriber to any Boston Ag. Journal, I shall feel obliged to you to make inquiry about the time of transplanting it, method of culture, &c., of which I may avail myself through the columns of your Journal. Such information I think would be acceptable to your subscribers in this neighborhood. Yours, respectfully, **Algernon Roberts.** *Philadelphia*

[The slip was not received: The cultivation of improved varieties of the blackberry is exciting increased attention in the vicinity of Boston. Hovey's Magazine states that several of the berries lately exhibited by J. **Lovett**, of Beverly, measured *one and a half inches in length.* The same journal states that "a dozen vines, well established will yield sufficient fruit for an ordinary family."

S. W. **Cole**, of Boston, says, "We have seen this fruit sold at $1 a quart, that was not a whit better (though fine) than we have picked (a quart without moving from our steps) on new lands in Maine. We have measured bushes of one year's growth 10 feet high. We did not dream, in our boyhood, when tearing our legs among thousands of brambles, of ever seeing this fruit cultivated, and sold at enormous prices. The blackberry ripens long in succession, coming in immediately after the raspberry. Owing to its great excellence, bees, wasps, flies, &c., claim a large share. Some *blackberries* are *white*, but they are as great an anomaly as a *white blackbird*, or *white crow*, which is seldom seen.

Soil, Propagation and Culture.—The blackberry grows freely in a warm, tolerably dry or rather moist, deep, rich soil. It abounds among stones, old logs, fences, and natural hedges. Keep the land rich and mellow. Besides other manures, use ashes, leaves, and vegetable mould. It is propagated by seeds, and by offsets at the roots. Train up new wood, and cut away the old, to keep the bushes vigorous and productive.

High Bush, (*Rubus villosus.*) Fruit large; long-ovate; shining black; very tender, juicy, of a sweet, rich, spirited, aromatic flavor, resembling the orange. Growth straight and upright, then the tops become recumbent. White blossoms. Downing's account of this fruit does not come up to the valuable wild variety in Maine.

Low Bush, (*Rubus canadensis.*) Small; roundish or irregular; black or reddish-black; rather tart, but brisk, pleasant flavor.

The Manettii Rose for Stocks.

Extract of a letter from an emiment florist in the South.

I had long wanted to get the Manettii, and wrote to Philadelphia for it last spring, but failed. I confess I like the budded roses very much: *the flowers are almost always large and fine;* and though not so long-lived as when they grow on their own roots, yet it is not much trouble to bud them anew as often as we want a fresh supply. Besides this, there are some few varieties that I cannot get to flourish on their own roots. The Chromatella is one of these; but it succeeds well by budding, and produces a great quantity of fine flowers.

[With me, the Chromatella has grown well on its own roots—one stem, the growth of this season, is about 4 feet high—though possibly it might do better on another stock. D. T.]

John Delafield, President of the New-York State Agricultural Society.

The above is an excellent portrait of the present presiding officer of the New-York State Agricultural Society. Mr. Delafield has been well known to our readers, and to the farming public of the country generally, for several years. He is known not only as an able and instructive writer, but as a most systematic, thorough and successful farmer—his farm having received the first premium of the N. Y. State Society in 1849. Hundreds of persons have visited his farm, and made themselves acquainted with its management, and many useful ideas and suggestions have been thus obtained, which, by being widely disseminated, have produced extensive results. In fact, Mr. Delafield's labors in the improvement of agriculture, are highly appreciated by the people of New-York. In the county of Seneca, in which he resides, he is acknowledged to have rendered important services in the introduction of improved implements of husbandry, and labor-saving machines—among which may be mentioned the drain-tile machine, which is producing immense benefits—and also in awakening a spirit of improvement by the diffusion of information, and by the numerous useful, practical examples he has afforded. Not least among his praiseworthy labors, is that of making an Agricultural Survey of Seneca County, a work which was undertaken at the request of the Executive Board of the State Agricultural Society, and was completed last year. The Report is embraced in the Transactions of the Society for 1850. It is a document of much interest and value, presenting in an admirable form the subjects to which it is devoted, and may, in this respect, be taken as a pattern for imitation.

In the discharge of his duties as President of the Society over which he presides, Mr. Delafield has exhibited the same good judgment and systematic skill which have ever characterised his business operations, and both in his management as an officer, and in his deportment as a citizen, has won the sincere esteem of those with whom he has been connected.

Preparations for winter should be made with as much dispatch as possible. Animals should be provided with shelter,—tender plants should be properly protected,—vegetables and fruits should be secured against the attack of frost.

Mechanics' Hall, State Fair Grounds, Rochester.

Implements at the New-York State Fair.

The show of agricultural implements at the late Fair at Rochester, in respect to the variety of articles, and the extent of competition for the different kinds, was superior to any display we have ever witnessed. We have more than once remarked that improvements in agriculture in this country, have taken their rise more from the improvements which have been made in implements, than from any other cause. The advance which has taken place from the cause here alluded to, is valuable in two important aspects: first, from the more thorough husbandry which has been induced, and the better and more certain crops which have been obtained; and second, from the economy of labor, which the introduction of superior implements has brought about. On both these points the advantage gained has been very great, and the labor-saving principle—or at least the saving of manual labor—has been of incalculable benefit to the farmers of many sections of the country.

Prominent among implements of this character, which are of modern invention or introduction, are Reaping Machines. It is true, however, that machines designed for reaping grain by horse-power were tried in England fifty years ago, and also at several subsequent periods; but their practical use is of comparatively late origin, the credit, which we are proud to say, belongs to American mechanics. This assertion will not, it is presumed, be denied; but at the same time, it is no more than fair to admit that the previous attempts at the construction of such an implement, although falling short of the object, were doubtless highly useful in the development of principles, and in showing, to some extent, what was, and what was not practicable.

It is now several years since various reaping machines have been used to a large extent in this country. They have been used to more or less advantage in most districts where wheat is largely cultivated, though the most striking and manifest advantage from their use, has been found in the newly-settled western states, where, from the scarcity of manual labor, it would have been absolutely impossible to have secured the harvests in the ordinary way of reaping or cradling.

The expediency of using these machines, depends, of course, upon the circumstances of the farmer—somewhat on the character of the surface of the land, that which is comparatively smooth and level being desirable—the number of acres of grain grown, and the readiness with which hand-labor may be obtained, and the price it will command. In the older and most populous sections of the country, where various crops are cultivated on the same farm, it is often the case that the farmer has no more wheat or other small grain, than can readily be cut in the proper stage by the hands ordinarily employed on the farm. If he has not more wheat, barley, or oats, than a machine can cut in a day or two, he will naturally conclude that it is inexpedient for him to purchase a machine at the cost of more than a hundred dollars for this purpose. It is still, however, a question whether this objection to the use of machines might not be advantageously overcome by the implement being owned by a man who might make cutting grain, by the acre, a regular business during the proper season.

It is known to our readers that two noted American reaping machines, have been introduced into England during the present season, and that to one of these, Mr. McCormick's, the great medal has been awarded at the Industrial Exhibition of all Nations. This machine, as well as that of Mr. Hussey's, has been subjected to various trials in England, with results highly satisfactory as to their operation, results which seem to have inspired a conviction that they can be extensively adopted in that country, notwithstanding the comparative cheapness of labor, with profit to the farmer—or at least with profit to the class of farmers who produce grain on a large scale.

Both Messrs. McCormick's and Hussey's machines were described (with cuts) in our current volume, pp. 41, 42. Both were exhibited at Rochester; Mr. McC.'s by by Hon. Thos. J. Patterson, Rochester, and Mr. H.'s R. Hussey & Co., Auburn.

Several other reapers were exhibited which deserve mention. B. Densmore, Brockport, offered one which had a rake attached to it for the purpose of removing the grain from the platform, without the aid of hand-labor. The apparatus was so geared that the rake would sweep off the grain at regular intervals. As none of the machines were tried, we cannot tell how well they might perform what was claimed for them. Another self-raking machine was offered by Anson Palmer, Brockport.

Mr. T. D. Burrall, of Geneva, offered a machine of his own invention, for which several advantages are claimed. It is very compact in its form, occupying but little space, may be readily adjusted to cut the grain at various heights, and discharges the grain in its own track —thus obviating the necessity of moving it before the machine takes another swath. It is also stated to operate well as a mowing machine for grass. The cost is from $110 to $125.

Ketchum's mowing machine, manufactured by Howard & Co., Buffalo, was exhibited. It is a very simple implement, strong, and apparently durable. It is well spoken of by those by whom it has been used.

Drill Machines, or Seed-Planters.—In these implements there was a large display, embracing nearly all the machines of established character, and several of late introduction. We noticed Seymour's, manufactured by P. Seymour, East-Bloomfield, Ontario county, (for cut and description, see Cultivator for 1850, p. 273,) which is much used in the western part of the state. The same person also offered his broadcast sowing machine, which has been described in this journal. Mr. Seymour has also combined the broadcast apparatus with the drill, in one frame—the whole being so contrived that the grain is planted in drills, and clover and grass seed sown broadcast at the same operation.

The drill made by Bickford and Huffman, Macedon, N. Y., (described, with cut, in our current volume, p. 209,) was also exhibited. It appears to be simple and effective. W. Rowland, Brighton, N. Y., offered a machine constructed for the purpose of depositing portable manures—as lime, plaster, guano, ashes, ground bones, &c., in the drill with the grain. A drill offered by W. Nichols, Grimsby, C. W., appeared well. A drill made Nathan Ide, Shelby, Orleans county, also made by Levi Wells, Rochester, is said to give good satisfaction. The same may be said of Atkins' drill, made by J. Ganson, Brockport. Gatling's drill, invented by R. J. Gatling, Indianapolis, Ind., in 1848, is somewhat peculiar in its construction, and is thought to possess some advantages. It combines to some extent the operations of the cultivator and drill. The process for distributing the seed is ingenious and effective. A series of screws, in the form of augurs, are so arranged that by their constant turning they deposit the seed in the drills with the utmost evenness and regularity. This apparatus obviates the liability of the machine being clogged, and insures the planting of the requisite amount of seed.

Cultivators.—Considerable improvements have been made in these implements, especially in their adaptation to field cultivation, and in the preparation of the soil for wheat and other crops. There is still room for considerable improvement in respect to the shape of the teeth, and the position in which they should be set in the frame, in order to clean the soil of foul plants, and to insure the working of the implement with the greatest efficiency. For the eradication of couch, or "witch" grass (*Triticum repens*) in particular, but few of the implements used by our farmers are capable of properly accomplishing the object. They should be constructed more to draw out—bring the roots to the susface, so that they may be gathered up and carried off the ground.

The cultivators offered on this occasion by J. Ganson, Brockport, had wrought-iron frames, the shanks of the teeth of wrought-iron, the feet or cutting part, of steel.

The teeth could be set in the frame, by means of thumb screws attached to each, to work at any required depth. A one-horse cultivator offered by the same person constructed in a similar manner to the preceding, appeared to be an excellent article.

We noticed several other good field cultivators, as Ide's, made by Levi Wells, Rochester. Spence & Atkins', made at Chili, Monroe county, N. Y. D. W. Martin's, North Greece, Monroe county, N. Y., (iron frame and steel teeth,) D. Hinkston's, Clarkson, Monroe county, (cast-iron,) and T. D. Burrall's, Geneva.

Clod-Crushers.—These are designed for breaking lumps or clods of hard earth, which it is difficult, and in some cases impossible to reduce by the harrow and common roller—especially on stiff clay soils, which are broken up during drouth. They might be used with excellent advantage. One was exhibited by John Walker, Chili, Monroe county. They are also made by T. D. Burrall, Geneva.

Plows.—There was a large display of these, embracing collections of various patterns and sizes from the establishments of Ruggles, Nourse & Mason, Worcester, Mass., offered by Rapalje & Co., Rochester, Martin & Co., Sutton, Mass., Bosworth, Rich & Co., and Starbuck & Co., Troy, Eddy & Co., Union Village, Washington county, N. Y., Allen & Belding, Rochester, and T. D. Burrall, Geneva.

Threshing Machines, Horse-powers, &c.—Of these there was the usual variety, but we noticed little as worthy of note that has not been previously presented to the public. Threshing machines were operated by various forms of lever or sweep power, as well as by the rotary or endless chain principle. Of the former, we noticed Pitts', with separator attached, made by John A. Pitts, Rochester, and of the latter the chief competition was between Emery & Co. and Wheeler & Co., Albany. Taplin's was offered by Eddy & Co., Union Village. All these have been previously described in our columns. They probably combine the advantages of the various modes of applying horse power, in as high a degree as has ever been attained. Wheeler's winnower and separator, described in our last number, was in operation, attached to their horse-power and thresher, and appeared to give entire satisfaction.

List of Premiums
Awarded at the State Fair at Rochester.

CATTLE.—Short-Horns.

Bulls—Over three years old—1. Sherwood & Stevens, Auburn, Earl Seaham, $25.—2. L G. Morris, Fordham. Lamartine, $15.—3. Lewis F. Allen, Black Rock, Exeter, $5.——Two years old—1. L. G. Morris, $20.—2. W. T. & N. Chappell, $10.—3. J. G. Peck, West Bloomfield, $5.——Yearlings—1. J. M. Sherwood, $15.—2. E. W. Sheldon, Sennett, $10.—3. L. G. Morris, $5.——Bull Calves—1. J. M. Sherwood, $10.—2. Aaron Barber, Avon, $3 and Trans.

Cows—Over three years old—1 and 2. L. G. Morris, $25 and 15.—3. S. P. Chapman, Clockville, $5.——Two years old—1. L. G. Morris, $20.—2. S. P. Chapman, $10.—3. L. F. Allen, $5.——Yearlings—1. N. J. Becar, Brooklyn, $15.—2. J. M. Sherwood, $10.—3. S. P. Chapman, $5.——Heifer Calves—1. S. P. Chapman, $10.—2. E. W. Sheldon, $3 and Trans.

Best three Cows and three Heifers owned by one exhibitor—S. P. Chapman, $25.

DEVONS.

Bulls—Over three years old—1. W. P. & C. S. Wainwright, Rhinebeck, $25.—2. E. N. Thomas, Rose, certificate, his bull having previously received the same prize.—3. M. C. Remington, Sennett, $5.——Two years old—1. H. Colby, Scipio, $20.—2. Saml. Baker, Edmonston, $10.—3. Albert Allen, Jordan, $5.——Yearlings—1. L. H. Colby, $15.—2 and 3 Ambrose Stevens, New-York, $10 and $5.——Bull Calves—1. Miles Vernon, Stafford, $10.—2. Ambrose Stevens, $3 and Trans.

Cows.—Over three years—1. W. P. & C. S. Wainwright, $25.—2. L. G. Morris, $15.—3. A. Stevens, $5——Two years old—1. R. H. Van Rensselaer, Morris, $20.—2. L. G. Morris, $10.—3. Miles Vernon, $5.——Yearlings—1. A. Stevens, $15.—2. W. P. & C. S. Wainwright, $10.—3. M. C. Remington, $5.——Heifer Calves—1. R. H. Van Rensselaer, $10.—2. H. N. Washbon, Morris, $3 and Trans.

Best three Cows and three Heifers—E. P. Beck, Sheldon, $25.

HEREFORDS.

Bulls.—Over three years old—1. Allen Ayrault, Geneseo, $25—2. Rowland Sotham, Black Rock, $15—3. W. H. Sotham, Piffardinia, $5.——Two years old—1. Rawson Harmon, Wheatland, $20.——Yearlings—1. L. F. Allen, $15—2. Rowland Sotham, $10.——Bull Calves—1. W. H. Sotham, $10.

Cows.—1 and 2. W. H. Sotham, $25 and $15—3. Rowland Sotham, $5.——Two years old—1. Allen Ayrault, $20—2 and 3. W. H. Sotham, $10 and $5.——Yearlings—1. A. Ayrault, $15—2 and 3. W. H. Sotham, $10 and $5.——Heifer Calves—1. A. Ayrault, $10—2. W. H. Sotham, $3 and Trans.

Best three Cows and three Heifers—W. H. Sotham, $25.

AYRSHIRES.

Bulls—Over three years old—1. E. P. Prentice, Albany, $25—2. W. Somerville, Eillicotville, $15.——Yearlings—1. E. P. Prentice, $15.——Bull Calves—1. W. A. Mills, Mt. Morris, $10—2. E. P. Prentice, $3 and Trans.

Cows.—Over three years old—1. W. A. Mills, $25—2 and 3. E. P. Prentice, $15 and $5.——Two years old—1. E. P. Prentice, $20.——Yearlings—1 and 2. E. P. Prentice, $15 and $10.——Heifer Calves—1. E. P. Prentice, $10.

NATIVE AND CROSS-BREEDS.

Cows.—1 and 2. John Brown, Auburn, $20 and $12—3. A. Ayrault, $4.——Two years old—1. Lyman Turner, Geneseo, $15—2. John Muir, Sr., Hamilton, $10—3. Jasper Barber, Avon, $3.——Yearlings—1. J. Freeman, Geneseo, $10—2. D. H. Albertson, Lima, $8—3. A. Ayrault, $3.——Heifer Calves—1. Donald McHardy, Rush, $3—2. J. Gould, Rochester, Trans.

To Miles Vernon, $15 and $10, for two grade cows.

OXEN AND STEERS.

Oxen.—Best yoke—1. W. Wadsworth, Geneseo, $20—2. E. Sheldon, $15—3. D. S. Baker, $5.——Three year old Steers—1. Jas. S. Wadsworth, Geneseo, $10—2. W. T. and N. Chappell, $5—3. D. S. Baker, $3.

Two year old Steers—1. Geo. Shaffer, Wheatland, $10—2. Daniel S. Baker, $8—3. J. S. Wadsworth, $3 and Trans.

To boys under 16, training yoke of steers—J. G. Ramsdell, Perinton, $3. and Trans.

Yearling Steers—1. John Muir, Sen. $8.—2. C. Sheldon, Conquest, $5—3. J. P. Hammond, Alexander, $3 and Trans.——To boys under 16, training steers—1. Vincent Lincoln, Alexander, Silver Medal—2. Emery Shepperson, East Hamilton, $3 and Trans.

MILCH COWS.

1. Jacob Gould, Rochester, D. McHardy, Rush, James Upton, Greece, and D. S. Earle, Salina, Diplomas.

FAT CATTLE.

Stall Fed—Single Ox—1. Hiram Sheldon, Sennett, $15—2. Geo. J. Pumpelly, Owego, $10.——Fat Cows—1. Robt. Fowler, Batavia, $15—2. Rich. Winn, Batavia, $10.——Pair Fat Steers—1. D. S. Baker, $15—2. Jas. Upton, $12—3. D. S. Baker, $8.——Single Steer—1. J. S. Wadsworth, $10—2. D. S. Baker, $6.

Special Premiums—L. W. Taylor, Lima, for thorough bred Durham Heifer, $25.——Geo. Shaffer, for three spayed heifers, $30.

Grass Fed—Single Ox—2. Freeman Nye, Darien, $6.——Pair Fat Steers—1. E. Sheldon, $12—2. Hiram Sheldon, $5.——Single Steer—Ira Rix, Alexander, $8.——Heifers—1. J. W. Hamlin, Aurora, $9—2. E. Sheldon, $3.

FAT SHEEP.

Long Wooled.—1 Wm. Swales, Sodus, $5—2. John McDonald, Herkimer, $3—3. Elias Barlow, Dutchess, Morrell's Shepherd.

Middle Wooled—Over two years old—1. Thos. Hosebury, $5—2. Marvin Hopkins, $3—3. Rich. Peck, Morrell's Shepherd.——Under two years—1. Marvin Hopkins, $5—2 and 3. Wm. S. Gypson, $3 and Morrell's Shepherd.

FOREIGN CATTLE.

Short Horned Bulls—1. Hon. Adam Ferguson, Wood Hill, C. W., $15 and Diploma—2. Ralph Wade, Port Hope, C. W., $10.——Cows—1. Hon. Adam Ferguson, $15 and Diploma.

Devons—Bulls—1. John Masson, Cobourg, C. W, $15 and Diploma—2. R. C. Gapper, Thornhill, C. W., $10.

To Roswell L. Colt, Patterson, N. J., for Hungarian cow and bull and Alderney Cow and Bull, $15 and Diploma, each.

HORSES.

For all work—Stallions.—1. F. Pester, Perinton, $25.—2. Caleb Gasper, Marcellus, $15.—3. M. G. Hungerford, Watertown, $5.—4. Robert Russell, Phelps, Youatt on the Horse.

Mares, with Colts—2. R. F. Pennel, Somerset, $15.—3. J. K. Ballantine, Chili, $5.—4. Stephen Cleveland, Penn-Yan, Youatt.

Special Premiums to Morgan Horses—1. C. W. Ingersoll, Lodi, $15.—2. S. A. Gilbert, East Hamilton, $10.—3. J. D. Remington, Sennett, $5.

For Draught—1. M. H. Van Inwagen, Fairville, $25.—2. Hiram Hosmer, Bennington, $15.—3. Jacob Brewer, Victor, $5.—4. Wm. Pierce, Henrietta, Youatt.

Wm. P. Nottingham, Palmyra, was awarded a certificate for "Young Sampson," he having heretofore received the first prize, as the best horse in this class.

Thorough-bred—Certificate to J. B. Burnett, Syracuse, for "Consternation," as the best, he having previously received the first prize—1. Samuel Baker, Edmonston, for "Pryor," $25.

Three years old—Stallions—1. W. P. Nottingham, $20—2. Andrew Hallenbeck, Caledonia, $10—3. Hiram Sayles, Scottsville, Youatt—4. Bernard Gilder, Steuben, Trans.——Mares—2. Wm. Reeves, Henrietta, $10—3. H. H. Kellogg, Clinton, Youatt—4. Stephen Mercer, Onondaga, Trans.

Two years old—Stallions—1. O. G. Pennell, Ridgeway, $15—2. Francis Winslow, Henrietta, Youatt—3. Lorenzo Norton, Darien, Trans.——Mares—1. Isaac M. Gillet, Clyde, $15.

Yearlings—Stallions—1. A. M. Starkweather, Eagle Harbor, $10—2. John Stryker, Chili, Youatt—3. J. C. Vail, Royalton, Trans.——Mares—1. J. M. Gillett, $10—2. C. W. Ingersoll, Youatt.

Matched Carriage Horses—1. G. C. Baker, Rochester, $15 and Diploma—2. J. Christopher, Buffalo, $10—3. John Butterfield, Utica, Youatt.

Matched Horses for Farm—1. Alfred Hall, Lyons, $15 and Diploma—2. Geo. Waffle, Gates, $10.

Geldings—E. R. Jerrold, Niagara Falls, $10 and Diploma—2. G. Warren, Half Moon, $8—3. H. F. Hotchkiss, $6—4. Daniel Waite, Darien, Youatt.

Mares—1. Geo. Gates, Mohawk, $10 and Diploma—2. W. W. Wadsworth, $8—3. C. W. Barker, Rochester, $6.

Foreign Horses—Best Stallion for all work, E. H. Hawke, Toronto, C. W., "Perfection," $10 and Diploma.——Best do. for draught, Joseph Graham, Port Hope, "Canadian Clyde," $10 and Diploma—Mrs. Jane Ward, Markham, C. W., was awarded Certificate for "Old Clyde," as the best horse in this class, he having had the first prize at a previous show.

SHEEP.

Long Wooled—Best buck over two years old—1. J. Mc Donald, Warren, $10.—2. Richard Peck, Lima, $8.—3. Samuel Hecock, Black Rock, $5.

Best buck two years or under—1. Williams Rathbone, Springfield, $10.—2. James A. Jackson, Gilbertvaille, $8.—3. Richard Gypson, Westmoreland, $5.

Best pen 5 ewes, over two years—1. Wms. Rathbone, Springfield, $10.—2. Thos. Hosebury, Cambria, $8.—3. Wm. Swails, Sodus, $5.

Best pen 5 ewes two years or under—1. Wms. Rathbone, Springfield, 10.—2. J. C. Rathbone, Otsego co., $8.—3. Samuel Hecock, Black Rock, $5.

Best pen 5 buck lambs—1. Wms. Rathbone, Springfield, $8.—2. Williams Rathbone, Morrell's Am. Shep. and $3.

Elias Barlow, Lagrange, for three lots of very good ewes, three in each lot, special premium of $8.

Middle Wooled—Best buck over 2 years—1. L. G. Morris and Noel J. Becar, $10.—2. Z. B. Wakeman, Herkimer, $8.—3. Samuel Baker, Edmonston, $5.

Best buck 2 years or under—1. J. M. Sherwood, Auburn, $10.—2. Z. B. Wakeman, Herkimer, $8—3. C. Parsons, Riga, $5

Best pen 5 ewes over two years, L. G Morris and Noel J. Becar, $10.—2. J. M. Sherwood, Auburn.—3. Z. B. Wakeman, $6.

Best pen 5 ewes 2 years or under—1. Ambrose Stevens, New-York, $10.—2 Z. B. Wakeman, $8.—3. Charles B. Meek, Canandaigua, $5.

Best pen 5 buck lambs—1. Ambrose Stevens, $8—2. L. G. Morris and Noel J. Becar, Morrell's Amer. Shep. and $3.

Best pen 5 ewe lambs—L G. Morris and Noel J. Becar, $8—2. Z. B. Wakeman, Morrell's Amer. Shep. and $3.

Merinos—Second best buck over 2 years—David Hillman, Avon, $8—3d best, O. Smith, $5.

Best buck 2 years or under—1. W. H. Cox, Stamford, $10—2. H. M. Dart, Harpersfield. $8.—3. Gen R. Harmon, Wheatland, $5.

To Reed Burrett, Burdett, for his imported French Merino Buck, a special premium of $10 is awarded

Best pen 5 ewes over 2 years—David Hall, Gaines, $10.—3d. David Hillman, Avon, $5.

Best pen 5 ewes 2 years or under, H. M. Dart, Harpersfield $10.

Best pen 5 buck lambs—1. W. A Cook, Lima, $8.—2. Gen. R. Harmon, Wheatland, Morrell's Amer. Shep. and $3.

Best pen 5 ewe lambs—1. W. A. Cook, Lima, $8.—2. J. W. Hyde, Darien, Morrell's Amer. Shep. and $3.

Best samples of wool, not less than 10 fleeces, W. D. Dickinson, Ontario county, Silver Medal.

Saxons—Best buck over two years—1. Samuel H. Church, Vernon, $10.—2. A. H. McLean, Caledonia, $8.—J. Betridge, Riga, $5.

Best buck two years or under—1 Samuel H. Church, Vernon, $10—2. Chas. Colt, Geneseo, $8—3. David J. Lee, Darien, $5.

Best five ewes, over two years old—1. S. H. Church, Vernon, $10—2. Chas. Colt, Geneseo, $8—3. A. H. McLean, Caledonia, $5

Best pen five ewes two years old or under—1. S. H. Church, Vernon, $10.

Best pen five buck lambs—1. S. H. Church, Vernon, $8.

Best pen five ewe lambs—1. S. H. Church, $8.

Best sample of wool, not less than 10 fleeces—1. David J. Lee, Darien, Silver Medal.

Cross Bred Sheep—Best buck over two years—D. S. Curtis, Canaan, $10.

Best buck two years or under—1. Taylor Goodell, Alexander, $10—2. W. D. Dickinson, Victor, $8.

Best pen five ewes over two years—W. D. Dickinson, $10.

Best pen five ewes two years or under—1. David J. Lee, Darien, $10—2. W. D. Dickinson, $8.

Best pen five buck lambs—1. W. D. Dickinson, $6—2. Taylor Goodell, $3 and Morrell's Shepherd.

Best pen five ewe lambs—W. D. Dickinson, $8.

FOREIGN SHEEP.

Long Wooled—Best buck—R. C. Gapper, Thornhill, C W., $10.

Best pen five ewes—William Miller, Pickering, C. W , $10.

Middle Wooled—Best buck—Joseph Pierce, Whitby, C. W., $10

Best pen five ewes—Ralph Wade, Cobourg, C. W., $10.

Special—Joseph Pierce, a vol. of Transactions and $5 for a pen of middle wooled ewes. John Cade, Whitby, C. W., a vol. of Trans. and $5 for a pen of middle wooled ewes. William Miller, Pickering, C. W., a vol. Trans. for 1 buck. Ralph Wade, Cobourg, C. W., a vol. Trans for 1 buck.

Merinos—Best buck—Jonathan S. Wilmarth, Addison, Vermont, $10.

Saxons—Best buck—S. C. Scovil, Salisbury, Ct., $10.

SWINE

Best boar over two years old—1. Geo. Shaffer, Wheatland, $10—2 Wm. H. Davies, Black Lake. $5.

Best boar one year old, L. Vanderwenter, Benton, $10—2. Truman Bowen, Chili, $5.

Best boar six months, and under one year—1. L. G. Morris, Fordham, $8—2. L. D Hecock, Alexander, $3.

Best breeding sow over two years—1. Elisha Beebe, Henrietta, Berkshire and Leicester, $10—2. Truman Bowen, Chili, Byfield, $5

Best breeding sow one year old—1. Geo. Shaffer, Wheatland, Leicester, $10—2. Orrin Lathrop, Darien, Leicester, $5.

Best sow six months, and under one year—1. N. Haywood & Son, Brighton, Leicester and Byfield, $8—2. Mattathias Garratt, Gates, Leicester and Byfield, $3.

Best lot of pigs not less than five, under 10 months—1. Samuel S. Wood, of Rochester, $10—2. Elisha Beebe, Henrietta, $5.

POULTRY.

Best lot of Dorkings, not less than three, one cock and two hens—Lewis F. Allen, Black Rock, $3.

Best lot of Polands not less than three—F. W. Collins, East Bloomfield, $3.

Best lot of Malay or Chittegong fowls, not less than three—A. A. Hudson, Syracuse, $3.

Best lot of Bantams not less than three—Charles Marble, Buffalo, $3.

Best lot of game not less than three—S. B. Colt, Irondequoit, $3.

Best lot of turkeys not less than three—S. B. Colt, $3.

Best lot of Muscovy ducks not less than three—George Cummings, Rochester, $3.

Best lot of small ducks not less than three—John N. Smith, Attica, $3.

Best lot of Guinea hens not less than six—E. S. Treat, Rochester, $3.

Best pair large geese, Lewis F. Allen, Black Rock, $3.

Best lot poultry owned by exhibitor—F. W. Collins, East Bloomfield, $10.

Best exhibition of pigeons—Miss Mary Mines, Rochester, $3.

Best lot of wild turkeys, L. K. Haddock, Buffalo, $3.

PLOWING MATCH.

1. Alexander Rumsey, Ogden, Monroe, co.; Curtis plow; Wm. Middleton plowman, $10.—2. J. F. Plato, Batavia; Curtis plow; A. H. Plato Plowman, $8.—3. D. B. Westfall, Lyons, Wayne co.; Wisconsin plow; D. B. Westfall plowman, $5.—4. J. F. Plato, Batavia; Curtis plow; J. F. Plato plowman, Transactions.

Of boys under 18 years of age, but one entry was made; the werk was well performed, and complied very closely with the rules of the Society. The first premium is awarded to G. H. Goodhue, Wheatland, $10.

FARM IMPLEMENTS.

Best farm wagon, T. S. Eastman, Deerfield, $5.

Best harrow, Rapalje & Co , Rochester, $3.

Best corn cultivator, made entirely of iron, Eddy & Co , Union Village, $3.

Best fanning mill, Grant's patent, Rapalje & Co., Rochester, $5

Best corn stalk cutter, Densmore's Patent, Brown & Mills, Mt. Morris, $5.

Best straw cutter, Ruggles, Nourse & Co.. Rapalje & Co., Rochester, $3.

Best corn and cob crusher, by horse power, C. B. Tuttle, Rochester, $5

Best clover machine, T. D. Burrall, Geneva, $5.

Best ox cart, T. S. Eastman, Deerfield, $3.

Best horse rake, Jared Clark, Unadilla Works, Otsego, $2.

Best ox yoke, J. P. Fogg & Bro., Rochester, $2.

Best roller for general use, Rapalje & Co , Rochester, $5.

Best clod crusher and roller combined, John Walker, Chili, $5.

Mr. Jessup, of Lyons, vol. of Trans. for an improved hay and stalk cutter.

Z. W. Smith, Honeyoye Falls, vol. Trans. for Swift's patent improved horse rake.

Best wagon harness, G. S. Jennings, $2.

Best axes, D R. Barton, Rochester, $2.

2d do. L. & J. White, Buffalo, small Silver Medal.

Best grass scythe, D. J. Millard, Sauquoit, Oneida co., $2.

Best grain scythe, North Wayne Company, Rapalje & Co., $2.

Hay knife, D. J. Millard, vol Trans.

Bramble scythe, D. J. Millard, Diploma.

Bush hook, L. & J. White, vol. Trans.

Scythes attached to snaths, Draper & Clark, Diploma.

Best grain cradle, Daniel Duesler, $2.

Grain cradle by boy, 12 years of age, Oliver Swift, small Silver Medal.

Best lever cheese press, F. S. Clench, vol. Trans.

Best churn, N. B. Clark, $2.

Best hay forks, D. J. Millard, $2.

Best straw forks, W. Brand & Co., $2.

Best manure forks, D. R. Barton, $2.

Best hand rakes, C. F. Crossman, $2.

Best hay racks, Rapalje & Co., $2.

Best doz. twine brooms, C. F. Crossman, $3.

Best double carriage harness, J. B. Slasson, Albany, $3.

Best single harness, L. J. Lloyd, Albany, Diploma.

Best washing machine, Joseph Hall, vol. Trans.

Best hoes, R. & E. Clarke & Co., Diploma.

Axe helves and scythe snath, Daniel Deusler, vol. Trans.

Weight power churn, W. G. Simpson, Diploma.

Best horse power for general purposes, on the sweep or lever principle, H. E. Smith, Fowlerville, $5 and Diploma.

Best horse power on railroad or endless chain principle, Emery & Co. Albany, $5 and Diploma.

Best iron horse power, H. E. Smith, Fowlerville, Livingston, co., $5 and Dip.

Best thrasher to be used with horse or steam power, Eddy and Co., Greenwich, Washington, co , $5 and Dip.

Best grain drill, with apparatus for depositing manure, Pierpont Seymour, East Bloomfield, Diploma.

Best wheat cultivator—"Rogers' wheel Cultivator," Chappell, Whitesides & Barrett, Brockport, Dip.

Best broadcast sower, Pierpont Seymour, East Bloomfield, Dip.

MACHINERY.

Steam engine on wheels, for farm use, 1st premium, Hoard and Bradford, Watertown, Medal and $25. 2d. Chas. Ross, Roch. $10.

Conical Burr stone grist mill, Charles Ross, Rochester, Dip.

Cast iron wheel cultivator, new invention, Silver Medal, D. Hamilton, Clarkson, (made by Chappell, Whitesides & Barrett.)

Ketchum's mowing machine, W. F. Ketchum, Buffalo, Certificate.

Portable cider mill press, A. & S. D. Freer, Cortlandville, $3.

Gang of plows, I. D. Smith, Shelby, Orleans co., commended.

Burr stone flouring mill, A. S. Sterling & Co , Buffalo, S. Medal.

Improved horse hoe cultivator and shovel plow combined, Hiram Wright, Morganville, Genesee co., $3.

Steam drier for grain, flour, meal and lumber, H. G. Bulkley, Kalamazoo, Michigan, Dip. and Silver Medal.

Machine for breaking and cleaning flax and hemp, F. A. Clemens, Springfield, Massachusetts, Dip. and S. Medal.

Enos Boughton, East Bloomfield, thistle digger and cultivator, a simple and effective implement, Silver Medal.

Rapalje & Co., Wheeler's combined thrasher and cleaner, a new invention and good article, $3.

Rapalje & Co., Segner & Shipton's patent seed drill, $3.

Samuel Davison, Greece, single plow seed sower and coverer, and gang plow seed sower and coverer, Trans.

REAPING MACHINES.

These machines are very important to the farmer, but the judges have been unable to decide fully on the merits of any one machine over another, having no facilities for testing the practicability of the machines.

Mr. B. Densmore has an improvement over many others in an iron tooth rake passing the grain off at one side, by the power of the machine.

Mr. A. Palmer has also a self-operating rake on his machine, which is very ingenious and simple.

Mr. T. R. Hussey's machine is got up in better style and material than any other on exhibition.

McCormick's reaper was presented for exhibition merely. This machine was awarded the Great Medal at the exhibition in London.

The machines on exhibition are the following—

Hussey's reaper by Quick and Hall.

Self raking reaper, by Anson Palmer.

New-York reaper, Seymour and Morgan.

A convertible reaper, T. D. Burrall.

Densmore's reaping machine.

The executive committee decided on examining the report of the judges, that no premium could be awarded to the reapers until a trial was had, to enable the judges to decide as to the qualities of the different machines in operation.

DAIRY.

Butter—Best lot, quality as well as quantity considered, made from five cows in 30 consecutive days, 25 lbs. of the butter exhibited, Stepto Woodruff, Almond, Allegany county, $25.

Best 25 lbs. butter made in June, G. C. Howard, Ogden, $10—2 F. Bishop, Geneseo, $5—3. L. L. French, Warren, Herkimer, Trans.

Best 50 lbs. made at any time, Amos Goulding, Le Ray, Jefferson county, $15—2. Wm. Shepard, Irondequoit, $10—3. Marcus Beckford, Victor, $5—4. G. W. Goodhue, Wheatland, Trans.

Girls under 21 years of age—Best lot of butter, not less than 10 pounds, made at any time, Emma Van Vorhees, Mendon, Silver Milk Cup—2. Lois Wells, Wheatland, Monroe county, Pair Butter Knives—3. Sarah Bingham, Ogden, Set Tea Spoons.

Cheese one year old and over—Best 10 lbs. cheese, Guy Reed, Richmond, Ontario county, $20—2. E. F. Carter, Le Ray, Jefferson co., $10—3. C. W. Eells, Westmoreland, Oneida co., $5—4. W. P. Ottley, Phelps, Trans.

Best six dairies. from a county, not less than three cheeses from each—Moses Eames, Rutland, Jefferson county, $30. Gardner Towne, Rutland, E. F., Carter, Le Ray, George Webb, Pamela, M. Bryant, Watertown, P. Hardy, Le Roy—Dairymen.

Less than one year old—Best 100 lbs. George Hammill, Rome, Oneida county, $15—2. Charles Benjamin, Rushford, Allegany county, $10—3. Almon Benjamin, Centreville, Allegany, $5—4. E. & H. Colvin, Hamburg, Erie, Trans.

Bees---Robbing.

In September and October bees are very apt to rob each other, and many families are destroyed in this way.

The remedy is to lower the hives down and give but one passage way, and that not over two inches long for the strongest families, and to be contracted according to the strength of families down to a compass that will only admit a few bees to pass in and out at the same time. This is the *preventive* remedy. The populous hives, well filled with honey will require but little protection, but those hives that have been left weak by too much swarming, or from any other cause, are in danger. Whenever an unusual bustle is noticed around a hive, with dead bees on the ground in front, and the occupants of the hive around in squads on the alighting board, with stronger bees held as prisioners, you may know that there is danger. Numbers of bees will be slowly flying around on a level with the entrance, as if seeking for an unguarded passage, making a louder noise than usual. At twilight, when all other hives are quiet, bees will be seen to leave a robbed hive and fly away to their houses. This is the most sure test. In such a case, close the hive entirely for a day, but give the bees air. You may then open the passage way a very little, so as to allow a single bee to pass. Leave it thus for a day or two when it may be enlarged if no further trouble is apprehended. T. B. Miner. *Clinton, Oneida county, N. Y.*

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American Plows.

Eds. Cultivator—Gentlemen: In one of the interesting letters from London, of Mr. Johnson, Sec. of the N. Y. State Ag. Society, published in the September number of the Cultivator, we find the following paragraphs:

"I became acquainted at our trial of plows [in the neighborhood of London] with Count de Gourcy, a distinguished French gentleman, who is one of the most intelligent agriculturist I ever met with.

> "He spoke in very high terms of our plows. He had seen three of them in operation in France, which had been sent over by some American gentleman who had purchased Ramboullet sheep; but his name he did not recollect. They were, he said, so light, so simple in their construction, so easily operated by the peasantry of France, and so cheap, that he preferred them altogether to any other plows. He expressed himself highly gratified with the performance of our plows at the trial—said they had accomplished all that was desired."

The gentleman referred to above, and of whose name Col. Johnson was ignorant, is John A. Taintor, Esq., of Hartford, Conn., to whom the breeders of the United States are greatly indebted, not only for his importation of Rambouillet sheep, but of very superior sheep from other distinguished flocks in France and Germany. The plows that Count de Gourcy so highly commends, were of our manufacture, and selected from our establishment by Mr. Taintor, about two years ago. We have repeatedly sent plows and other agricultural implements to Europe, and all have been highly approved of there—even in Old England herself. We mention this merely in defence of the sneers against American plows &c., which from the time they appeared at the Crystal Palace, up to the day of trial, it pleased the English press to throw out against them. After the trial the English editors changed their tone, and acknowledged the superiority of American implements in the handsomest manner. This was very manly on their part; and as interested parties, and in common with our fellow exhibitors, we feel quite obliged for their *amende honorable.*

Had we supposed that a "trial of plows" was to be made, we should have sent some to the Crystal Palace fitted for it; as it was, being completely unprepared for this, our plows worked to great disadvantage. Very resp'y. yours, A. B. Allen & Co. *New-York, Sept.* 15.

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Special Manures for Potatoes.

Eds. Cultivator—I suppose all things concerning the potato, its culture, productiveness, &c., are interesting, to a portion at least, of your patrons. And it is upon that supposition that I venture to lay before them an experiment which I have been trying the past summer. The soil is a light loam; the kind of potatoe, White Mercer; the time of planting, the second week in May; the manures used, Patagonia guano, "prepared guano," by Kentish & Co., of New-York, and bones ground and dissolved with sulphuric acid, (as per Prof. Norton's recommendation in the Cultivator.) One row was planted without any manure, bone being on either side, then the different kinds of guano, alternately, with the bone. The quantity of Patagonia guano per acre, used, 600 lbs.; of prepared do., 800 lbs.; of bone, 8 bushels. No other manure was used. The land planted was quite reduced. The result was as follows: the weights of the *merchantable*, and of the small potatoes, are given separately, with the total weight, the cost, &c.

	lbs. oz. large.	lbs. oz. small.	lbs. oz. total.	Cost pr. acre.
3 hills without any manure, ...	1 0	0 8	1 8	$0 00
do bone by the side, ...	2 8	0 8	3 0	8 00
Pat. guano, 6 hills, ...	4 4	1 8	5 12	12 00
Prepared guano, 6 hills, ...	3 0	2 0	5 0	9 50
Bone by the side, do	6 8	3 0	8 8	8 00

By the above table, it may readily be seen which manure causes the greatest product, and which furnishes that unanswerable argument, *cheapness*, which none can resist. The bone prepared for use, costs in the above but two-thirds as much as the guano, while the product is nearly three-fourths greater. The bone was ground in this place. of which about one and a half bushels were put in a half-hogshead; then one-third, (by weight,) as much acid as bone, diluted with twice its bulk of water. Stir well together, and in two or three days you have as active a manure as can be produced. There was a surprising luxuriance in the tops of the rows where the bone was put, remarked by all who saw them.

I think it excels as a top-dressing. From the slight opportunity which I have had of judging, I should say $5 per acre would double the crop of grass on the light land which abounds in this vicinity, and greatly improve its quality. It may seem to some like a great undertaking, to purchase the acid at some distant place, transport it home, and use it. "*The strong stuff*," as some say, "I should be afraid to use it?" Well, now it is all imaginative difficulty. Just try it friends, and give us the result. S. R. H. *Hadlyme, Sept.* 5, 1851.

Agricultural Exhibitions.

Addison County Vermont.—The show of this society took place at Middlebury, on the 25th of September. The number of animals exhibited was less than usual, in consequence of the weather being rainy the day precedceding; there was still, however, quite a large collection of horses, cattle and sheep. Of the horses, most of the best specimens were the progeny of the well-known horse Black-Hawk, from six months to four years old. Some of these were very fine. A three-year-old colt, the property of Mr. Johnson, of Middlebury, is a beautiful animal.

There was a large collection of working oxen and steers, some of which made a good appearance; but most of the cattle were in rather low condition, in consequence of the pastures being parched with drouth—there having been but a trifling amount of rain since July. We are sorry to see that the farmers of this section, in general, bestow but little attention to their cattle; at least their cattle do not indicate the exercise of much skill in breeding—being too commonly, coase, hard-fleshed and large boned. It is to be hoped, however, that the laudible efforts now being made by a few individuals, will in a few years correct this evil.

The sheep were mostly Merinos. They comprised specimens of the French sheep imported by Mr. Jewett, the Silesian, imported by Messrs. Sandford & Co., and the descendants of the old Spanish stock. Of the latter, several lots offered by Mr. Hammond of Middlebury, were of superior character; and in symmetry, uniformity of appearance, and quality of wool, do much credit to Mr. H. as a breeder.

There were a few sheep shown under the name of Leicesters, but in general, they were by no means well-bred. The varieties of English sheep—as Leicesters and South Downs—would probably be profitable in this section for mutton, if well selected and well managed; but those who intend going into this business, would find their account in procuring the right kind of stock to begin with.

The show of fruits and vegetables was not large. There were some very handsome apples, showing that this fruit may be produced here in great perfection. The farmers would do well to turn their attention more to the business, and raise new orchards to take the place of those which are becoming old and unproductive. The collection of apples offered by Mr. Albert Chapman, of Middlebury, would have been considered fine at any exhibition.

Bucks County, Pa.—This society held its show and fair at Newtown, on the first of October. The gathering of the people on the occasion was one of the largest we have have ever seen at an exhibition of a county society, being estimated at 12,000 to 15,000. This society has established itself on an excellent basis; we believe this was its eight annual meeting, and the demonstration, both in regard to the spirit prevailing among the people, and the character of the exhibition itself, was such as reflected credit on the association and the county. The officers and members of the society may congratulate themselves on the flattering success which has at last crowned their patriotic labors. The society has purchased a lot of land, of about four acres, enclosed it with a suitable fence, divided it into proper divisions, and erected proper buildings, sheds, pens, &c., and have procured canvass, tents, and provided other necessary requisites for the exhibitions. We were much pleased with all these arrangements, which were evidently designed with a correct understanding of the objects to be accomplished.

There was a very respectable display of agricultural implements, most of which were manufactured in the county. We saw plows of good workmanship, made by Geo. Buckman, Upper-Makefield, and others by A. Blaker, Newtown. There were also on the ground, drill, reaping, and threshing machines, and most other articles used in farm labor.

Horses, cattle, and sheep were quite numerous. Owing to the very severe drouth which has prevailed in this section, (there having been but little rain from June to October,) live stock in general is much lower in condition than usual. Some good cows, and other cattle, were offered by Messrs. J. C. and Adrian Cornell, Longley, and others; and some mutton sheep, mostly of mixed blood, by the same. Among the latter we noticed some a cross of the African broadtailed breed, offered by Wm. W. Carr. There was a large show of poultry—comprising geese, ducks, turkies, and most of the varieties of fowls.

The fruit and vegetable departments were quite as good as could have been expected, considering the drouth, and the fact, also, that there is almost an entire failure of apples and pears throughout this section of country.

The manufacturing departments appeared to contain many articles worthy of notice, but from the great pressure of the crowd, it was impossible to examine them. Our attention was attracted by a beautiful specimen of raised worsted work (a chair), and a handsome painting (village at sunset), by Misses Olivia and Margaret Staveley, daughters of Wm. Staveley, Esq., of Partridge-Hall Farm.

We shall give some notes in regard to the farming of Bucks county, in a future number.

Philadelphia County, Pa.—This "ancient and honorable" association held its exhibition for the present year on the 8th and 9th of October. To this society belongs the proud distinction of being the first of the kind organized in America—dating from 1785. Among its founders we recognize the names of many of the prominent men of the revolution—as Timothy Pickering, Robert Morris, John Jay, Richard Peters, Benj. Rush; and among its honorary members and correspondents were Arthur Young, Sir John Sinclair, and other celebrated British writers on agriculture of that period. In these days when the agricultural interest has attained an ascendant position in popular estimation, and agricultural societies have become common in all parts of our country, we seldom realize how much we are indebted to the example and influence of these first laborers in the cause. It is no flattery to say that the early "Memoirs of the Philadelphia Society for Promoting Agriculture," comprise many papers of great value. They contain the germs of much of the improvement in agriculture which it is our happiness to enjoy. In this view, perhaps no society in existence is entitled to higher credit for the benefits it has conferred on the public.

The exhibition of the society on the present occasion, when considered in reference to the unfavorable character of the season, the scarcity of grass, and the suffering of many crops from drouth, was highly creditable. The number of animals was larger, as we were informed, than at most of the previous exhibitions. We cannot speak in high terms of the horses, in the aggregate, though there were a few which appeared well. Of these, a stallion, 6 years old, owned by Daniel Stout, Cheltenham township, Montgomery county, was well formed for strength and endurance. His sire was the imported Norman horse owned by Edward Harris, Esq., of Moorestown, N. J. The cattle comprised specimens of the Short-horns, Devons, Alderneys, and various mixed breeds. Jas. Gowen, Esq., the President of the Society, exhibited several fine Short-horn cows, heifers, and bulls; others of the same breed, offered by Messrs. Cadwallader, Newbold, Barton, and Blight, deserve notice. Some of the Devons by Messrs. Sheridan, Smith, and others, were fine. There were several yoke of superior working oxen, bred in Connecticut, offered by Mr. Gowen, and others whose names we did not learn. The sheep were of the English varieties. Aaron Clement, Esq., exhibited several fine specimens of South-Downs, Leicesters, and mixed breeds. Some good Cotswolds, or improved Oxfordshires, were exhibited by Benj. Wood, of Sugartown, Chester county. Some of them were from the flock of Col. Ware, of virginia. The show of swine was large, and comprised good specimens of Leicester or Dutchess county stock, offered by Mr. Wilkinson, and others, of the Berkshire, of which a very handsome specimen was offered by Mr. Gowen, and an imported white Berkshire boar offered by James Devereaux, of Germantown. There was a great show of poultry, showing that the sober citizens of the Quaker City and its suburbs are not entirely free from the epidemic which has affected other parts of the country. Though a large proportion of the fowls were of the *Shank-high* tribe, there were some good ones. Deserving mention were those under the name of Gold-spangled, or Pheasant fowls, (Bolton bays, or Golden-Hamburghs,) offered by Henry Ditman. They were of almost unexceptionable form, but had not the exact markings required by the standard for that variety. The white fowls offered by Rev. Mr. Bumstead, of Roxborough, were good.

The specimens of fruits, vegetables, grain, and other seeds, were numerous, and in general of superior quality—much superior in all respects than could have been expected under the unexampled drouth. The specimens of farm products from the farm of Mr. Geo. Blight attracted much notice; as did those offered by Mr. Sheridan.

A handsome display of implements was made by Messrs. Prouty & Barrett, and a smaller but good assortment, by Mr. C. B. Rodgers.

Washington County, N. Y.—We have been furnished by a correspondent with the following account of the exhibition of this society:

The eleventh annual Fair and Cattle Show of the Washington county Agricultural Society, was held at South Hartford on the 17th and 18th of September. The farmers of this section have suffered for a long time from excessive drouth, and this circumstance was unpropitious for the show; but notwithstanding this discouragement the farmers with commendable public spirit brought out their stock, and made the show such an one as was creditable to the husbandmen of the county, and one that fully met the expectations of the great number which the increasing interest in these exhibitions called together. The show of cattle was good, especially of working oxen —about thirty yoke being exhibited—some of great excellence. In sheep the show was remarkably good. The exhibition of horses was very good, much the best ever had in the county; many animals of superior excellence. The amount of fruit exhibited was not large, although there were some specimens of fine quality.

The ladies' department, containing many articles of rare beauty, was peculiarly interesting and excited much attention. Much credit is due the ladies for the fine taste displayed in adorning the tent with evergreens and flowers.

The plowing took place the second day. The successful competitor used a plow manufactured by Eddy & Co., Union Village.

An address, which highly interested the large audience, was delivered by Prof. Norton of Yale College. We have reason to believe that this address will do much towards removing existing objections against connecting science with practical agriculture, and will tend to create a laudable rivalry among farmers, and awaken a spirit of investigation and inquiry, for which it was eminently calculated.

It is with great satisfaction that we find our fairs every year becoming more interesting. This show, in most departments, was the best that has been held in the county, and furnishes ample evidence that farmers are awake to their true interest. S. *South Hartford, Sept.* 22, 1851.

Berkshire, Mass.—This county has two Agricultural Societies—the old Berkshire, proper, and the Housatonic. Both are well sustained, and for several years, each has had its annual exhibitiuns. The show of the Housatonic Society was held the present season at Great Barrington on the 24th and 25th of September; and that of the Berkshire Society at Pittsfield on the 1st and 2d of October. This is an old society, and it is entitled to the credit of holding the first agricultural exhibition in this country, which took place at Pittsfield in 1810. The interest then originated has been well sustained, and the prosperity of the county of Berkshire, is due, in a great measure, to the influence exerted by her agricultural societies.

Hampden County, Mass.—Show at Springfield, Oct. 1st and 2d. The Republican says: "In speaking of the Fair, as a whole, we but echo the opinion of all whom we have heard express an opinion, that it has never been equalled in the county. We remember nothing in the exhibition that was not above mediocrity, and much, very much, we may certainly say, of surpassing excellence." The address of Prof. Norton, is spoken of in terms of high commendation.

Vermont State Fair.—The first effort at a State Fair in Vermont was made on the 10th and 11th of September last, at Middlebury. We regret that we had not the opportunity of attending. The weather was most oppressively hot; but a collection of people estimated at 12,000, was on the ground, and the number of animals and articles exhibited was as large as the most sanguine anticipated. It is stated that there were in all, 400 horses exhibited, "comprising many of the superior animals known in the state;" 300 meat cattle; 1,100 sheep; 50 lots poultry; 1,200 "inanimate objects." The horses and sheep formed the chief attraction. The celebrated horse Black Hawk, with upwards of sixty of his progeny, from the age of six years down to three months, passed in regular procession around the circle devoted to the show of horses. There were other fine specimens of the Morgan stock, particularly the noted Green Mountain Morgan, owned by Silas Hale, Royalton, Mass. The sheep comprised specimens of all subvarieties of the Merino—French, Silesian, Saxon, and the true Spanish.

At the close of the exhibition a regular organization of a State Agricultural Society was effected, and the following officers duly elected for the ensuing year:

Frederick Holbrook, Brattleboro', President; Wm. Nash, Joseph W. Colburn, Harry Bradley, Erastus Fairbanks, Vice-Presidents; J. A. Beckwith, of Addison, Cor. Secretary; C. S. Noyes, Recording Secretary; John Spaulding, Treasurer; J. S. Pettibone, J. K. Parish, Geo. T. Hodges, P. Baxter, L. Brainard, Additional Directors. A meeting of the Directors was held at Burlington on the 25th of Sept., at which it was resolved to petition the legislature at the coming session, for an act of incorporation.

Ohio State Fair.—The second State Fair for Ohio, took place at Columbus on the 24th to 26th September. The number of people who attended, is thought to have been nearly 100,000. The character of the exhibition appears to have been creditable to the state, and satisfactory to the members of the society and the public. We presume the result will be salutary in reference to the interests of the citizens of the Buckeye State.

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Strength of a Bull.—The *Massachusetts Plowman* states that a bull, three years old, drew a cart loaded, up a hill, with three tons of stone, and fifteen men on the top of it—the whole equal to *four tons two hundred and fifty pounds*. It was a load on which the working oxen had been tried, which were exhibited at the show of the Essex county Ag. Society. The bull was hitched to the end of the tongue.

Sales of Stock at the State Fair.

One of the most important advantages afforded by agricultural exhibitions, is the opportunity which they present of purchasing such animals and articles as persons are in want of, who attend these gatherings. This feature of the New-York State Fairs has done much to keep up their interest, and to bring annually together large numbers of choice animals. The sales of stock and implements which have taken place at these exhibitions for the last four or five years, have been very large, and at the late show at Rochester were probably equal to any former occasion. We notice some of the sales of stock which have come to our knowledge—it being a matter of interest to the public to learn the whereabouts of fine animals.

The Short-horn bull Halton, exhibited by Hon. Adam Fergusson, of Canada, was purchased by S. P. Chapman, Esq., of Clockville, Madison county, N. Y. We may mention in this connection that Mr. C. has sold a yearling heifer and a bull calf to Mr. E. G. Alden, of Boston—the animals being destined for a farm purchased by Mr. A. in Madison county. The price paid for the two, was $275.

The fine (red) Short-horn cow exhibited by Mr. Fergusson, was purchased by N. J. Becar, Esq., of Smithtown, Long Island.

The fine Devon cow (sister to the noted bull Major) exhibited by Mr. Gapper, of Canada, has, we are informed, gone into the possession of Messrs. W. P. and C. S. Wainwright, of Rhinebeck, Dutchess county; and Messrs. W.'s beautiful Devon bull, which received the first premium, was disposed of to R. H. Van Rensselaer, Esq., of Morris, Otsego county.

Mr. E. P. Beck, of Sheldon, Wyoming county, sold to Mr. Freeman, of Port Dover, C. W., two fine yearling Devon heifers, at $100 each.

Mr. E. P. Prentice, of Albany, sold two Ayrshire heifers to Mr. Penny, of Newark, Ohio. The superior Ayrshire cow, which was exhibited by Mr. W. A. Mills, of Mt. Morris, which took the first premium, was purchased by Mr. Prentice.

We understand that extensive sales of sheep of various breeds, and also of horses, took place, but we have not learned particulars.

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Hereford Cattle.—We are requested by Mr. Sotham, to copy the following from an article in the *Mark Lane Express* of September 15th, under the head of "Meeting of the Royal Agricultural Society."

"The prize Hereford bull, shown by the Right Hon. Lord Berwick, of Cronk-hill, near Shrewsbury, aged four and a half years, was unquestionably the best bull in the yard. He has a large square frame, of great depth, well covered with flesh of good quality; he has a good skin, is short legged, girts nine feet, and is six feet in length. Altogether he is a large and compact animal. The second prize Bull, belonging to Mr. Price, was also a remarkable animal, but not to be compared to Lord Berwick's bull. Although but three years and twenty days old, he girted eight feet seven inches, whilst the prize Short-horn Bull, a much higher, and apparently a much larger animal, girted two inches less, although three months older. The other classes of Herefords contained some admirable specimens, and although not so numerously exhibited as the Short-horns, yet we think, as a class, they stood unequalled."

Trees for Waste Lands.

EDS. CULTIVATOR—On most farms there is generally more or less waste lands, such as steep hill sides, gravelly knolls, &c. These lands, in their barren state, always give a cold and forbidding appearance, and often mar the beauty of the farm. To improve these lands in the shortest way, and at the least expense, is the next thing. Probably many farmers will have a variety of ways of doing it, and if they bring about the desired result, all very well. But the majority of farmers will content themselves to do just nothing at all. Yet there are some who are inclined to improve such lands, when they are convinced of its importance, and know how it can be done. The practice of plowing and manuring such lands is fraught with many evils, as in plowing knolls and sidehills the wash of rains is so great as to keep the land in sterility, besides the difficulty in plowing and cultivating it to any advantage.

Now I think the best way to manage such lands, is to let them grow up to timber. On some lands of this kind young sprouts will come in naturally, which, if taken care of, and left undisturbed by the plow, or by cattle, will soon make young trees. On other lands it would be necessary to plant acorns and chestnuts, or else set out the young trees; and these trees, with proper care, would in a few years make a handsome grove. It is not intended to make a forest on these lands, but more to leave them scattering, like the "oak openings" of the west, free, of course, from all underbrush.

When these trees get sufficient size to shade the ground well, the grass will begin to come in, and in a few years a clean grass sward will be made. We are satisfied that what these lands want most is *protection* from the scorching rays of the sun, and the washing of rains. In proof of this, any farmer must have noticed how soon a grass sward will form under a tree where it stands on a barren knoll. Probably the small fibrous roots of the tree help to make the sward, and then the cattle repose under its shade, and add their excrements to the soil; so by all these agents combined, a good soil is formed. These ranges of side hills and knolls, after the trees get grown to sufficient size, may be kept in permanent pasture, both for sheep and cattle. Thus a farmer, after a few years, would have the satisfaction of seeing his former barren hill sides converted into handsome groves and belts of timber, adding much to the beauty of the farm and landscape.

Often, in the line of old fences, the hickory tree will come up, and if protected a little, will in a few years make a fine tree. I think this tree decidedly one of the finest forest trees in this country, as its leaves are large, it affords a good shade, and a fine protection from the sun. L. DURAND. *Derby, Conn., August* 30, 1851.

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Kerr's Poultry Book.

EDS. CULTIVATOR—In a very well written review of Dr. Kerr's edition of Dixon on Poultry, in your last paper, the reviewer alludes somewhat uncharitably to certain objectionable passages in the letters of one of Dr. K.'s correspondents. As I have good reason to know that at least one of those letters was not designed for publication at all, and none of them intended by the writer to be published "word for word," without curtailment or alteration, you will permit me to offer this in palliation. Expressions that are not to be tolerated in print, may be almost excusable in private confab, or correspondence between cronies.

There is one point, however, on which I must join issue with OBSERVER, and the very respectable rhyming worthy whom he quotes to prove that "want of decency is want of sense." The poet needed a rhyme, and so he wrote "want of sense," carelessly, of course, for he surely had too correct an appreciation of his own powers, to charge himself seriously with lack of brains. For truth or meaning, any other expression would have answered as well, but it would not *jingle*. A greater bard, who lived on the banks of Avon nearly 300 years ago, and whom a young lady of my acquaintance very admiringly pronounced "*a smart man*," used a great many "immodest words," and so did Etherge and Rochester, and Buckingham, and many of the famous wits of by-gone days, and yet no one will accuse them of want of sense. The condemnation is altogether too sweeping in its character to be just. A decided want of decency is certainly very censurable, but not amenable to the charge which Mr. Observer endorses by quoting. OBSERVER. *Northumberland, Pa., Sept.* 8, 1851.

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Cross-breeding Animals.

A pamphlet has lately been published in Scotland on the effects of cross-breeding, by ALEXANDER HARVEY, M. D. We have not seen the work, but have seen frequent notices and extracts from it in English and Scottish journals, and in the *Quarterly Journal of Agriculture*, there is a review of it by the editor, Mr. STEPHENS.

Dr. HARVEY propounds a new theory in relation to some ideas connected with cross-breeding, which are thus stated:

> "There is a circumstance connected with the process of breeding in the higher classes of animals which seems to me to merit a larger share, than it has yet received, of the attention of the agricultural body. It is this,—that a male animal that has once had fruitful connexion with a female, may so influence her future offspring begotten by *other* males, as to a greater or less extent *engraft* upon them his *own distinctive features*—his influence thus reaching to the subsequent progeny, in whose conception he himself has no share, and his image and superscription being, so to speak, more or less inscribed upon them."

He proceeds to cite several instances of the characters of the male by which a female first conceived, being visible in offspring afterwards produced, from other males. One of these is the case of the Earl of Morton's mare, which has been often mentioned. The mare was first covered by a quagga, an animal of the assinine family, with stripes like those of a zebra. She produced a hybrid, which had the marks of its sire, as might have been expected. But a singular result followed. The mare afterwards produced three foals in successive years, by an Arabian horse, all of which had stripes like those of the hybrid!

Dr. H. has gathered similar facts in regard to sheep and other animals, and he thinks there are analogous phenomena in the human species.

Mr. STEPHENS, (the reviewer of Dr. H.,) sums up his own views in regard to Dr. Harvey's theory in a few words, and in the following conclusion we think he will be sustained by general observation:

"From the time we read Dr. Harvey's first paper, we doubted altogether the correctness of this explanation. We thought then, as we still think, that the resemblance of the subsequent offspring to the first male by whom the mother was impregnated, was to be explained upon the principle of *mental influence*, and not upon *inocculation* of the mother's blood, by the matter of the first foetus that she bore."

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Salt for Animals.

Professor Simonds, Veterinary Inspector to the Royal Agricultural Society, observes, in relation to the action of salt on the animal economy, that "it is exceedingly beneficial in moderate quantities, but prejudicial in large ones." He thought horses might take with advantage from an ounce and a half to two ounces of salt, daily; but that an excess of it would render animals weak, debilitated, and unfit for exertion. Similar facts were applicable also to oxen, which accumulated flesh faster by the judicious use of salt, than without it. He cited Arthur Young, and Sir John Sinclair, to show that salt had a tendency to prevent the rot in sheep. Prof. S. added as his own opinion, that salt, by its action on the liver, and the supply of soda it yielded to the bile, led to a greater amount of nutriment being derived from the food. The substance, he said, was also well known as a vermifuge, destroying many kinds of worms in the intestines of animals, and conferring a healthy tone of action which prevented their re-occurrence. Several members of the R. A. Society, as Col. Challoner, and Mr. Fisher Hobbs, stated that their experience led them to agree with Prof. Simonds, in regard to the value of salt for animals. In reference to the mode of giving it, the practice of placing large lumps of rock salt in fields or yards, where it was always accessible to the stock, was mentioned with approbation. This practice is now adopted by many farmers in this country, and after several years trial is preferred to the former mode of giving salt periodically. When animals are only allowed to have salt once or twice a week, it is sometimes the case that they eat too much at once, but by having it constantly in their reach, they eat in such quantities as their systems require, and it assists digestion, and promotes health and thrift.

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Fire Annihilator.

There seems to be no doubt that the ingenuity of man has at last devised a means by which the "devouring element" may be in a great degree deprived of its terrors, and its power to harm. A man in England, by the name of Phillips, has obtained a patent for what he calls a "Fire Annihilator," and is described as "a machine containing a chemical preparation, which, whenever occasion demands, will discharge, with the power of steam, a vapor in which flame cannot exist." It has been subjected to several tests during the great exhibition at London, and in all of which it has proved entirely effectual in accomplishing the purpose for which it was designed. One of the most striking and gratifying experiments for testing the efficacy of this invention, was made by filling the hold of a vessel of 150 tons burden, with the most combustible materials, which were set on fire, and allowed to burn with the hatches closed, for several minutes, when, on admitting the air, the flame burst forth with great power, ascending high above the deck.

"The word being given by Mr. Phillips," says an eye-witness, "his men brought the portable machines forward. Each of these portable machines is of about 20 horse power, that is to say, from the peculiarity of the invention, the vapor from the nozzle or spout of each, was admitted at that ratio. Two of these were brought in succession on the burning mass from the mouth of the hatchway, and in three seconds the vapor had extinguished the great body of the flame, leaving one or two small points where the flame was discernible; and in about two minutes the vessel was almost clear of all smoke."

The experiment was witnessed by several officers of the Royal Navy, who severally signed a certificate embracing the facts above mentioned.

ANSWERS TO INQUIRIES.

Drain Tile Machine.—A. B., South Carolina. We know of no other machines for making tiles, than such as have been previously mentioned in our journal. We do not see how it would be possible for a machine to be made, that would answer the purpose, for a much smaller price.

Raising Water by Wind power.—T. S. E., Salem City, Oregon. We have no wind-mills in operation for raising water in this vicinity. We have seen pumps worked by wind for this purpose—the apparatus being moved by the ordinary mode of attaching sails to the arms of a shaft.

Name of Pear.—B., Nassau, N. Y. The pear you left with us, is the summer Bon Chretien. It is a native of Europe, but has been long cultivated in this country.

Corn-stalk Cutter.—R. S. C., Elmira, N. Y. We know of no machine better adapted to this purpose than Wheeler's, which is for sale by Emery & Co., and Wheeler & Co., of this city. It is adapted to horse power. Price $28. Hay or straw can be cut by the same machine.

Buckthorn.—J. C., Brandon, Vt. The buckthorn is very different from the common white or any other species of thorn. The former is the only kind which has generally succeeded in the Northern States. The seeds can be obtained at most seed-stores in Boston, Albany, or New-York. If planted this fall, two inches deep, the frost will probably soften the outer covering so much that the seeds will mostly vegetate next spring.

Reclaiming Swamps.—S. L., Gay's River, N. S. The land you describe could probably be made to produce good crops of hay. The first thing to be done is to make the ground so dry that the cultivated grasses will grow; next to kill out the wild growth, and sow the seeds of the kinds wanted. If the ground is solid enough to work horses or oxen, plow and level the ground, dig out and burn, (or carry off,) the roots and turf which appear above the surface; sow timothy and red-top, either in spring or early autumn, and bury the seed slightly with a rake or bush-harrow. As to the expense, it is impossible for an estimate to be made without knowing all the particulars, such as the price of labor, and the exact circumstances, relating to the situation of the ground.

Ice-house.—W. A. M., Chautauque county, N. Y. The plan of which you speak, described in our volume for 1847, has been adopted in many instances, and with entire success. In the principal ice-exporting districts, the houses for storing it are of late generally built above ground.

Hay Press.—B., New London, Ct. Deidrick's press, made by L. **Deidrick**, Kinderkook, N. Y., with some improvements which have been lately made, is thought to be equal if not superior to any in use. It is made both in a portable and stationary form—the former being sold at $100, and the latter at $200 to $300, according to size.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from Observee, A. B. Allen & Co., H. M. Congar, Prof. J. P. Norton, Wm. H. Sotham, J. H. Salisbury, W. A. Mayborn, D. B. Richards, S. W. Bartlett, Tyro.

The Stone-Hill Potato.—We have received from Mr. D. A. **Bulkley**, of Williamston, Mass., a sample of a variety of potatoes with this name. Mr. B. states that he raised them from seed of the Carter potato, the present being the fourth generation from their origin, and they have this year been very productive on his farm. The tubers left with us are large, white, and every way fine in appearance, and having had several of them cooked, we can say the quality is excellent.

☞ Mr. **John Giles**, of Providence, and Dr. **Eben Wight**, of Boston, will accept our thanks for a pair of beautiful Aylesbury ducks, received from each them.

Potatoe Disease.—We have received through His Excellency Gov. **Hunt**, two letters from Mr. **Smith Fancher**, of Broome county, on the subject of the potato disease. He thinks the disease is caused by "a fly, rather larger than our common fly, of rather a blackish cast, with gilt spots on its wings, of a golden brightness." To prevent the attacks of this fly, he recommends sowing slacked lime on the tops of the potatoes, while they are wet with dew. This he thinks "will extract the poison and destroy the nit." The idea that this disease is caused by insects has been often advanced, and the evil has been charged on many species; but accurate investigation has shown the hypothesis to be without foundation. A similar remedy to that suggested by Mr. F., has been applied in numerous instances, without any effect to lessen the malady.

Uniformity in Breeding.—A *family* of cattle exhibited by W. W. **Wadsworth**, Esq., of Geneseo, at the late State Fair, deserves special mention. It consisted of a cow nine years old, and five of her offspring, viz: one cow, six years old; one ox, five, one cow, four; one heifer, three; and a sucking calf. We were told that there was another heifer, in the same family, fully equal to any of these, in good qualities. The parent cow and most of her progeny are red. She is perhaps, seven-eights Short-horn, and has been bred to Short-horn bulls. Her points and handling are excellent—scarcely surpassed by any, and equalled by very few of the Short-horn cows on the ground; and the same qualities are very strikingly apparent in all her progeny. The ox, (which belonged to a pair exhibited by Mr. W.,) was one of the most complete animals, in every particular, that we have ever seen. The whole family form such an example of *uniformity* in breeding, as is seldom attained.

Trial of Plows.—By an arrangement between the officers of five county Agricultural Societies in Pennsylvania, a trial of plows took place on the farm of **Thos. P. Knox**, Esq., near Norristown, Pa. on the 7th of October. Twenty plowmen with the same number of plows, competed for the prizes. The ground selected for the trial, though the most suitable that could be obtained in the vicinity, was very unfavorable. It was naturally of a tenacious character, and under the influence of three months drouth, had become more solid than any ground we ever before saw plowed. We understood that the rules by which the decisions were made, were that the furrows should not be less than six inches deep, nor less than ten inches wide, and that the plow which effected the most thorough pulverization of the soil, these requisitions being complied with, should be entitled to the preference. The awards were as follows: For the best plow, 1st premium to **Prouty & Mears**, Centre Draft, No. 5¼, $50; 2d do. **Jesse Pawling**, Jr., $30; 3d do. **Geo. Buckman**, $20. For the best plowman, 1st premium to **Abraham Guile**, $25; 2d do. W. R. **Kennedy**, $15; 3d do. J. B. **Walker**, $10. Much of the plowing was done in a very creditable manner, considering the condition of the soil, and many of the plowmen evinced a skill which under more favorable circumstances would have caused their work to praise them.

More French Merino Sheep.—S. W. **Jewett**, Esq., of Weybridge, Vt., has lately received 56 of these sheep, from the flocks of Messrs. Gilbert & Cughnot—making in all he has imported from France, nearly 300 head. We have had the opportunity of examining most of the latter importation, and several of the former. They appear to have been selected with care, and are more uniform in appearance, both as to shape and size of carcass, and quality of wool, than the previous importations of sheep we have seen from that country. Like other French Merinos which have been imported, they are much larger than sheep of the Spanish stock which have been bred here. It is to be hoped they will receive a fair trial in comparison with other stocks.

Good Cows.—**Samuel W. Bartlett**, Esq., of East-Windsor, Ct., sends us an account of the produce of a Short-horn cow, (Red Lily,) owned by **Solomon Cowles**, Esq., of Farmington, Ct. The cow was exhibited by Mr. C. at the late show at Hartford, and the statement in reference to her was presented to the committee of which Mr. **Bartlett** was chairman. "She is five years old; calved Sept. 16, 1851; gave in six successive days in September, an average of 36 lbs. 8 oz. of milk per day, which milk produced 12 lbs. 8 oz., or more than two pounds of butter per day; her keeping, pasture feed only." The following is given as her pedigree: "Red Lily, calved Jan. 4, 1846; got by King Philip, American Herd-Book, 85; gr. sire North-American, English Herd-Book, 684; gr. gr. sire Yorkshireman, 5700. Dam

Red Lily, Rosabella, by Dictator 3591; gr. dam White Tulip, by Whisker, 5639; gr. gr. dam Tulip, by Patriot, 2412."

At the late show of the Berkshire county Ag. Society at Pittsfield, Mass., GEO. S. WILLIS, Esq., received the first premium for a cow, which was stated to have produced from the 18th day of June to the 24th, inclusive, seven days, 315 lbs. milk, averaging 45 lbs. per day, and making 16 and 14-16 lbs. butter; and in seven days in September, 266 lbs. milk and 14 and 2-16 lbs. butter.

THE HORSE BLACK-HAWK AND HIS PROGENY.—From a late visit to Vermont, we learn that this stock is more and more highly esteemed as it arrives to a proper age to be tried. This creates a ready demand for them at high prices. A yearling colt was lately sold by Dr. RICE, of Bridport, for $1,000. His destination is Chicago, Illinois. Instances are not very rare of $1,200 to $1,500 being obtained for colts of two to three years old, and $200 to $500 for fillies. One of the finest colts we ever saw, is owned by Messrs. HILL and WALKER, of Bridport. He was foaled the 2d of July, last; was by Black-Hawk, dam by Comet, a son of Sherman Morgan. He has, even now, almost the finish and development of a mature and perfect horse. We saw the old horse in harness, again. He still moves with great ease, and shows much of the nerve and elasticity for which he has always been distinguished. We notice that some newspapers, in giving an account of the Vermont State Fair, make a distinct class of Black-Hawk and his progeny, and another distinct class under the head of "Morgan Horses"—thus giving the impression that Black-Hawk does not belong to that noted family. On this point it is sufficient to say, that the writer of this is in possession of the most positive evidence which a case of this nature admits of, that Black-Hawk was begotten by the horse called Sherman Morgan.

EXPERIMENT WITH POTATOES.—Mr. J. W. GRAY, of Ball's Pond, Ct., sends us the following: "Last spring I planted three rows side by side across a small patch. No. 1 was planted with large potatoes cut, and two halves put in each hill, three or four inches apart. No. 2 was planted with potatoes of the same size, one in each hill, without cutting; and No. 3 with small ones two in a hill. They were dug to-day and yielded as follows: No. 1 yielded one bushel; No. 2, 26 quarts; and No. 3, 20 quarts. The soil was the same, and all received the same cultivation. Nos. one and two were about equal in size, with about the same proportion of small ones in each, while in No. 3 there was more small ones in proportion to the number. If the small ones were selected from No. 3 and planted by the side of the larger ones from No. 1 or No. 2, for two or three successive years, no doubt the difference would be much greater."

IMPROVED MEAT-CHOPPER.—At the late exhibition of the Philadelphia county Agricultural Society, a machine for cutting meat for sausages was exhibited by J. BODINE, of Trenton, N. J., which appeared to operate in a very satisfactory manner. The knives are attached to the ends of levers about four feet long, each having a seperate action, and they strike on a revolving block on which the meat is placed—the knives being raised, alternately, by a tappet wheel, and fall perpendicularly, of their own weight. The machine was operated by a crank turned by hand and worked with great rapidity. We were assured that fifty pounds of meat had been cut by it fine enough for the best sausages, in five minutes.

NUMBER OF ANIMALS EXHIBITED AT THE LATE FAIR OF THE N. Y. STATE AG. SOCIETY.—The number of animals exhibited in the different classes, according to the entries, was as follows:

		Total.
CATTLE.—Short-horns—Bulls and bull calves,	44	114
Cows, heifers, and heifer calves,	70	
Devons—Bulls and bull calves,	62	173
Cows, heifers, and heifer calves,	111	
Herefords,		27
Ayrshires,		12
Natives and cross-bred,		79
In the "Foreign Class"—Short-horns,		13
Devons,		14
Alderney,		5
Hungarian,		2
Working Oxen,		28
Steers—three years old,		33
do two		16
do one		22
Fat cattle—Grass-fed,		11
Stall-fed,		14
		562
HORSES.—Class "All work,"		107
Draught,		22
Thorough-bred,		21
Three-years-old,		36
Two-year-olds,		21
Yearlings,		15
Matched—Draught—4 pair,		8
do Carriage—52 do,		104
Foreign—Sucking foals not included,		26
		462
SHEEP.—Merinos,		152
Saxons,		47
Long-wooled,		127
South-Down,		139
Cross-bred,		27
Foreign—Saxon and Merino,	8	57
Long and Middle-wooled,	49	
		549
SWINE.—Including sucking pigs,		117

POULTRY.—The number of entries was 34. The number of specimens in each lot was not in all cases specified, but would amount in the aggregate to 800, or over.

TWIN-CALVES.—*A male and female.* In general, when a male and a female calf are produced at one birth, the female is incapable of breeding, being what is called a "free martin." There are, however, exceptions to this rule, and the organization of some females, produced at the same birth with males is so perfect that they are prolific. Mr. BENJ. SHEPPARD, of Greenwich, N. J., informs us that on the fifth of May, 1849, one of his cows dropped two calves—a male and a female—and on the 11th of October last, the female dropped a strong and healthy calf, and she appears likely to make a good milker.

IMPORTED FRENCH MERINO SHEEP.—We have received from S. W. JEWETT, Esq., of Weybridge, Vermont, a note in reference to the sources from which he obtained his French Merino sheep. Respecting reports which it is said have been circulated, that his sheep were, with few exceptions, "grades and culls," Mr. J. says—"I have simply to say that so far from my sheep being grades and culls, they were selected by myself in person from flocks descended from the best blood in Spain, and purchased with special reference to the wants of this country. I will cheerfully give any information to any person, about these sheep, and the address of those of whom I purchased." Mr. J. names Messrs. **Gilbert & Coghnot** as the persons of whom many of these sheep were purchased.

Moore's Rural New-Yorker.—An article hastily written last winter, and under extraordinary circumstances sent off by the Editor of the Horticultural Department of this paper to the printing office unfinished, appears to have been entirely misunderstood by the Rural New-Yorker. That paper was referred to as containing "a *copied* article, ascribed to the Cultivator, [that article] giving as new and valuable the twenty times exploded humbug, of raising fruit trees of different sorts from cuttings, by dipping the lower end in wax or tallow."

The two words above in brackets were omitted by mistake, and hence the Rural New-Yorker has supposed that we meant to charge *him* with endorsing the humbug, a thing not true, and never intended nor thought of by us. And we only noticed it, because that paper copied the humbug, *as credited to this paper,*—placing us as its author,—and thus, however unintentionally, doing us great injustice.*

This was all explained in a note from the Editor of the Horticultural Department, to the Rural New-Yorker; and a brief explanation was received too late for insertion in this paper at the time. We supposed the explanation given in that paper would be sufficient to show that he entirely misunderstood us; but as he has lately repeated his former remarks, most singularly and unaccountably charging us with a "libel," we furnish the above brief explanation. His sense of justice will perhaps suggest to him whether, first and last, he has not said many more unjust things of us, than we have apparently said of him.

* This paper being the oldest of the name, and the only one in the United States *without any other distinctive epithet*, was regarded by every one as the paper meant by the term *Cultivator*.

Calamus, or Sweet Flag.—A correspondent at Ellsworth, Ct., wishes information in regard to the best mode of eradicating this plant from his moist meadows. Can some one tell the best way?

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Albany Prices Current.

Albany, October 20.

FLOUR.—We have had during the month a dull market for flour, and although the quotations show no important change, the tendency has been downward. The aggregate receipts of flour so far this season, are still far in advance of the receipts to the corresponding period last year; this with a limited export demand leaves a large stock on dealers' hands in New-York. The stringency in the money market has prevented any speculative movement in flour, which the present low prices would otherwise have produced. Flour in England continues to rule low, Western Canal being quoted at 15a18s., Philadelphia and Baltimore 18a19s., Ohio 18a20s., and Canadian 18a19s. 6d. The sales of the month are 31,000 brls. at $3.75a3.87½ for State, $3.75 a4 for fancy State and Ohio and Michigan, $4a4.25 for good to fancy Genesee, $4.25a4 50 for extra Ohio, and $4.50a5 25 for extra Genesee.

The demand for Corn Meal has been steady with sales 4500 to 5,000 bags at $1.15½a1.18¾ per 100 lbs. The Buckwheat trade has opened with a brisk demand from store at $2a2.25.

GRAIN.—Quotations of wheat follow the decline in the price of the flour, and prime Genesee is quoted at 5a6, lower than it was a month ago; the demand for Genesee at present quotations, 91c. is fair; the inferior descriptions of Western are neglected while those of a better grade are but in moderate demand; the sales are 70,000 bushels at 91a97½ for Genesee, 86c for white Ohio, 81a82c for mixed lots of do., 80c. for red do., 81c. for Ohio Mediterranean and 81½ for this State Mediterranean; the market closed at 91c. for prime lots of Genesee, with no sales of Western for some days. The only sale of Rye during the month has been 300 bushels from store at 66c. for 56 lbs. The supply of Oats both of new and old crop has been limited prices have been variable with sales 114,000 bushels at 30a31c. for heated Western, 34a36c. for good Western, and 36a37½c. for do. State closing at 34a35c. for Western and 36c. for State. The sales of Corn during the month aggregate 290,000 bushels; the receipts by Canal continue very large and are confined exclusively to Western mixed, much of which comes forward in an unsound state; the Eastern and distilling demand is good; the market closes at 48a54c. for lots more or less unsound, and 54a55 for good to prime lots of Western mixed, show a decline on the quotations of this day month of 2a3c. Barley comes forward steady, but the receipts are far behind those to the corresponding period last year; the deficiency to the present time amounting to upwards of 300,000 bushels The quotations during the month have been very uniform and the range between the two descriptions of Barley is wider this season than it was last. Quotations may be given at 72a74 cents for ordinary to prime two rowed and 78a80c. for four rowed, including a load to arrive soon at 80c.; samples of four rowed slightly mixed sold at 75a75½c. The sales of the month are 370,000 bushels

The Liverpool quotations for wheat, U. S. red, per 70 lbs. 4s. 9da5s.; do white and mixed 5s. 1da5s. 6d.; Canadian red 4s. 9da5s. and whtie 5s. 2da5s. 6d. Indian Corn, yellow, 26a27, white do. 27a28s 6d.

WHISKEY has been in nominal supply during the month; the sales have been light, closing at 21c. for S. P. and low proof Ohio.

FEED.—Sales 50,000 bushels at 12½a14c. for shorts, 15a21c. for second quality and 100a110c. for fine middling.

HOPS.—There is a large speculative movement going on in hops; in the hop growing districts of this state, the prices paid are full as high as in this market, 25a26c. being freely given for all that can be obtained, and taken on the spot; the retail demand here has been supplied at 25a26c., and on Saturdy a sale was made from store of 12,000 lbs. at 26c., and within a few days a sale of 10,000 lbs. has been made in this city at a figure above our quotations. To day bidders generally ask 30c. for larger lots, while retail sales are making at 27c.

PROVISIONS.—The market is confined to a limited retail trade.

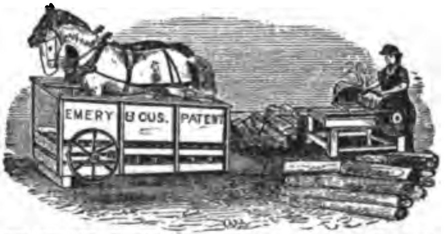
WOOL.—The market here is neglected. At Boston, on the 10th, the demand for domestic wool had been good for some days, and the sales larger than for a long time past, at prices rather in favor of buyers. The transactions add up 350,000 lbs. fleecs, at about 43a46c. Saxony, 39a41c. Full blood, 37a38½ do., 34a36½ do., 31a33 common. Prices are still rather unsettled for the article, as the drouth which prevails in all directions keeps manufacturers out of the market. In foreign wool, sales of 50 bales washed Portuguese, on private terms. Besides the export of 502 bales foreign wool, noticed last week, 1,500 bales more are ready for shipment to Europe, and only waiting a low freight.

Trees! Trees! Trees!

THE subscribers would respectfully solicit a share of the public patronage in the purchase of all kinds of Fruit and Ornamental Trees, Shrubs, &c.

All orders accompanied with the cash, or satisfactory reference, will receive prompt attention. SHEPPARD & CHERRY,
Nov. 1—1t.* River Bank Nursery, Rochester, N. Y.

References.—A. Saul & Co., Newburgh, N. Y.; Wm. Reid, Elizabethtown, New-Jersey.



EMERY & CO.'S Premium Horse Power.

THE subscribers offer to the Public with renewed confidence, their Superior Horse Powers, Threshers, and Separators—as their success in competion with other Powers, during the fall, has shown that in the opinions of committees and the public we have the best Railroad Horse Power for general and particular purposes. Prices are as advertised in former numbers of the Cultivator.

New-York State and Michigan Agricultural Societies, gave to above their first premiums. EMERY & CO.,
369 and 371 Broadway, Albany, N. Y.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed.

Reference to Mr. J. Van Dusen, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—6t.

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. Barry, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—N. Y. *Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States.

Just published by CHARLES SCRIBNER,
Oct. 1—3t. 145 Nassau st., New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Rochester Commercial Nursery,

Established 1830.

THE attention of the public is invited to our large stock of fruit and ornamental trees, shrubs, green-house plants, &c., &c., all of which have been carefully cultivated and are warranted correctly named.

Particular attention has been paid to the propagation of the very best standard fruits, and we are confident that we can fill any orders for these, however large.

We do not boast of the size of our Catalogue, but of the number and beauty of our trees.

An extra quantity of cherry seedlings on hand, of one year's growth. BISSELL & HOOKER,
Oct. 1—2t. Rochester, N. Y.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geared, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.
May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,		$9 00
2½	do	do	do	do		10 00
3	do	do	do	do		12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices.

The establishment is at *Latourette's Point, Fresh Kills*, near *Richmond, Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

A very Desirable Farm for Sale.

I Offer to sell my farm of 320 acres, situated four miles south of the village of Oxford, Chenango county, N. Y., and near the river and canal. 250 acres of it are under high cultivation, and well and durably watered. The remainder is well timbered. The fences are chiefly stone, and in good repair. It has a large two story mansion, five large barns and sheds, in good repair. It is admirably adapted for a dairy, or for grazing and grain—and has a fine orchard of grafted fruit The farm, for profit, health, and beauty of scenery, cannot be surpassed. It is fully supplied with farming tools and stock, and 130 tons of hay, all or either of which may be had with the farm. The farm can be conveniently divided. The title is perfect, price low, and terms easy. Apply to G. VANDERLYN,

Oct. 1—2t. Oxford.

FARM FOR SALE.

ONE of the best grazing farms in Chautauque county for sale, at $18 an acre. It contains about 220 acres, about 120 acres of which is under a good state of cultivation. The buildings and fences are good, and there is on it a good orchard of grafted fruit. A part of the purchase money can remain under a bond and mortgage for a term of years if desired. The title is perfect. For information inquire of JOHN D. PATTERSON,

Oct. 1—2t.* Westfield, Chautauque co., New-York.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres; about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

WOMBAUGH & WHEELER,

Oct. 1—4t. Real Estate Agents, Columbus, O.

New-York Importers and Jobbers.

FREEMAN, HODGES & CO.,

58 Liberty street, between Broadway and Nassau-street, near the Post-Office, New-York.

WE are receiving, by daily arrivals from Europe, our Fall and Winter assortment of rich fashionable fancy silk and millinery goods.

We respectfully invite all cash purchasers thoroughly to examine our Stock and Prices, and. as interest governs, we feel confident our Goods and Prices will induce them to select from our establishment. Particular attention is devoted to Millinery Goods, and many of the articles are manufactured expressly to our order, and cannot be surpassed in beauty, style and cheapness.

Beautiful Paris ribbons, for Hat, Cap, Neck, and Belt.
Satin and Taffeta ribbons, of all widths and colors.
Silks, Satins, Velvets, and uncut velvets, for Hats.
Feathers, American and French artificial flowers.
Puffings, and Cap trimmings.
Dress Trimmings, large assortment.
Embroideries, Capes, Collars, Undersleeves and Cuffs.
Fine embroidered reviere and hemstitch cambric handkerchiefs.
Crapes, Lisses, Tarletons. Illusion and cap laces.
Valenciennes, Brussels, Thread, Silk, and Lisle thread Laces.
Kid, Silk, Sewing Silk, Lisle thread, Merino Gloves and Mitts.
Figured and plain Swiss, Book, Bishop Lawn and Jaconet Muslins.
English, French, American and Italian Straw Goods.

Oct. 1, 1851—2t.*

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the *new* Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.

Sept. 1—3t.

SYRACUSE NURSERIES.

THORP, SMITH, HANCHETT & CO., proprietors, Syracuse, N. Y., having 100 acres closely planted to Fruit and Ornamental Trees, Roses, Shrubbery, Green House Plants, &c., we shall have for sale the coming season, a most extensive stock of Nursery commodities, not to be excelled in size and beauty by those of any establishment in the Union. Nurserymen, Amateurs, Orchardists, and Venders, are earnestly invited to call, examine and judge. Our stock of

STANDARD FRUIT TREES,

Comprises all of the best varieties of Apple, Pear, Plum, Cherry, Peach, &c., of such sizes and quality as no contrast can disparage We have also, both by importation and of our own cultivation,

PYRAMIDAL, OR DWARF TREES,

Of the Apple, Pear, and Cherry, designed for compact planting, being thereby *especially* desirable for small lots, Gardens, &c., as well as *generally* so, by reason of their habit of early bearing. We have all of the approved varieties cultivated in this form, from one to four years old—many of the Apples and Pears being now in bearing.

OF THE SMALLER FRUITS,

Currants, Gooseberries, Raspberries, and Strawberries, we are always fully supplied with all the best old and new sorts.

OF ORNAMENTAL TREES,

For the street border, and lawns, our stock is very large. Our Horse Chestnuts and Mountain Ash are particularly noticeable for their luxuriant growth and surpassing symmetry of form. They uniformly excite admiration.

Evergreen Trees, in great variety, new and rare, including Lebanon and Deodar Cedars, 4 to 6 feet high; Japan Cedars; Spruces; Junipers; Taxodiums; &c.

Pæonies—A splendid collection of both *tree* and *herbaceous* varieties.

Dahlias—One hundred and fifty selected sorts, comprising the finest English prize flowers, with all the best in the U. S. 25 to 50 cents each for whole roots.

Phloxes—Over fifty of the choicest kinds.

Roses—A most extensive assortment, comprising 6000 plants of the best varieties, and all the new acquisitions; amongst them the new Perpetual Striped Moss, Herman Kegel, the Hybrid Perpetual, Caroline de Sausel, Gen. Cavignac, Gen. Changarnier, &c.

Bulbous Roots—A choice collection daily expected from Holland, consisting of Double Tulips, Hyacinths, Crocuses, &c.

Plants for bedding out, of every description; *Vines, Climbers, &c.*

Cherry, Apple, and Pear Seedlings; Buckthorn, two and three years old, very strong plants.

All of which will be sold as low as at any other establishment, and in many cases lower, either at wholesale or retail.

We are now issuing a new edition of our Catalogue, containing full information of our productions, terms, prices, &c., embracing, 1st, a general descriptive catalogue; 2d, a full catalogue of select Green House Plants; and 3d, a special catalogue of Dahlias, Phloxes, and Bedding out plants; which will be sent gratis to all post-paying applicants.

☞ Mr. H. Warren, proprietor of the Agricultural Store, 316 River Street, Troy, N. Y., is our authorized agent to receive orders.

THORP, SMITH, HANCHETT & CO.

Syracuse, Oct. 1—2t.

Dana's Muck Manual.

JUST published, by JAS. P. WALKER, Lowell, Mass., a new, revised, and greatly enlarged edition of the MUCK MANUAL FOR FARMERS, by DR. SAMUEL L. DANA. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. PEASE & Co.; in New-York, by Mr. C. M. SAXTON. Oct. 1—3t.

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ANDRE LEROY,

Nurseryman, at Angers, France,

RETURNS his thanks for past favors, and begs leave to inform his friends and the public in general that his catalogue for 1851 is now ready and can be had on application to his agent Mr. E. Bossange, 138 Pearl street, New-York. He offers for sale a large collection of the finest fruit, forest and ornamental trees of all kinds, shrubs, roses, &c. &c. The superior quality of his trees is already known in the United States, and the experience he has of packing up trees to be sent abroad gives him a noted advantage over all other Nurserymen. Orders had better be sent early, although his Nursery is the largest in France, the number of some new kinds of trees are limited and some of the last orders sent last year could not be executed. The terms, prices, charges, and all desirable information will be found in his catalogue. The trees will be shipped to the care of his agent in New-York, who will attend to the receiving and forwarding. For further particulars and for the catalogue apply to

Nov. 1, 1851—3t. E. BOSSANGE, 138 Pearl street, N. Y.

FANCY POULTRY.

THE subscriber has for sale several pair of white and yellow Shanghaes, Dorkings, Creole or Bolton Grey, Golden Pheasants, small clean legged Bantams, and Frizzled fowls. Any of the above breeds cooped and delivered in Albany or New-York city free of charge. All orders promptly executed. W. H. SOUTHWICK,

Nov. 1—1t.* New Baltimore, Greene county, N. Y.

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing, near New-York, offer their select and unrivalled collection, comprising Fruit and Ornamental Trees of the laagest sizes for transplantation.

30,000 pears in a bearing state, three to seven years growth, and a great number of smaller sizes.

Apples, Cherries, Plums, Peaches, Nectarines, Quinces, and other Fruit Trees of two to five years growth.

Evergreen Trees of large sizes, comprising Norway Spruce, Hemlock, and White and Blue Spruces, Balm of Gilead Fir, Arborvitæ of six kinds, Sweedish and Irish Junipers, and Pines of various rare species. Also, Cedar of Lebanon, Deodar Cedar, Cryptomeria, Araucaria, Mahonia of different species, Abies morinda, Tree Box of different kinds, 50 varieties of Rhododendrons, green and variegated Japan Euonymus, and Irish Yew, all of good size. The collection of Evergreens is unequalled.

Deciduous Ornamental Trees and Shrubbery, of the largest sizes, suitable for imparting immediate ornament. Also, 25,000 Roses of the Daily, Perpetual, Moss, and other varieties on their own roots and none budded.

10,000 finest Foreign and American Grapevines, including several native varieties superior to the Isabella. Above 100 beautiful Chinese double Herbaceous Pæonies, and 40 very splendid varieties of the Tree Pæony, many of which are large plants

A large collection of Bulbous flower roots and Herbaceous flowering plants at low rates.

The new Supplement Catalogue just issued, comprises all the estimable varieties of Strawberries, including 30 splendid varieties never before announced, together with the new Californian Trees and plants and the novelties of every class latterly brought to notice. Priced catalogues in three parts will be sent to post-paid applicants who enclose stamps. Nov. 1—1t.

N. B.—A wholesale Catalogue also for Nurseries and other venders.

Kinderhook Nursery and Garden.

At Kinderhook, Columbia co., New-York.

THE proprietor has on hand his usual large supply of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Gooseberry and Currant bushes, Grapevines, Hedge plants, Raspberries, Strawberries, &c.

The Trees are of large size, thrifty growth, and well rooted, and can furnish nearly all the new varieties ordered, and will sell at the lowest market prices.

Ornamental trees being grown extensively, can be furnished by the hundred at very reasonable rates. European Linden, Mountain Ash, Scotch Elm, English Elms, English Sycamore, Weeping Willow, with a good collection of Roses, Green-house plants, &c., all which can be supplied in quantities to suit purchasers. Catalogues will be forwarded to all applicants.

Nov. 1—1t. H. SNYDER, Nurseryman, Kinderhook.

STATE AGRICULTURAL WAREHOURSE.

EMERY'S, Kell's, and Wheeler's Horse Powers and Threshers. Hovey's, Clinton's, Tower's, Sinclair's and Botts, Straw and Stalk Cutters.

Vegetable Cutters for slicing up potatoes, beets, &c.

Corn Shellers of various patterns.

Fanning Mills of Bryan's make—this is considered one of the best Mills in use.

Clinton's, Bamborough's and other makes.

Prouty & Mears' premium Plows of all sizes.

Minor & Horton's and Eagle Plows.

Harrows of Geddes, Triangle and Scotch patterns.

Paring Plow, a superior article made under the direction of Prof. Mapes.

Subsoil Plows, of Weir's pattern, which is half the draft of the old style.

Ox or Road Scrapers, Seed Sowers, Cultivators, &c.

Field and Garden Seeds.

Fertilizers, such as Guano, Bone dust, Bone Coal, Plaster, Poudrette, Bone Manure and Sulphate of Soda. For sale by

GEO. H. BARR,
Nov. 1—1t. No. 25 Cliff street, New-York.

To Farmers and Planters.

THE subscriber has made a contract for a large quantity of bone dust, ground fine, also, for the sawings and turnings of buttons, which he offers for sale at $2.25 per barrell, including package, warranted pure. Owing to the large demand this season, many were disappointed in getting their supply, without paying exorbitant prices (elsewhere.) Farmers and Planters will please send in their orders at their earliest convenience, stating the quantity they will want, and at what time the same is to be delivered. It is necessary to have their orders at this season to enable me to reserve for them their supply in the spring or earlier. If they desire, now in store, Peruvian guano, Bone black, Wood's Renovating Salts, Potash, Oil of vitriol and Poudrette. GEO. H. BARR,

State Agricultural Warehouse,
Nov. 1—1t. No. 25 Cliff street, New-York.

A RARE CHANCE!

POMONA FARM FOR SALE—consisting of 120 acres of excellent land, including a young Orchard of Fifty acres, containing over five thousand trees, of the choicest kinds of apple and peach, selected with especial reference to market purposes—the apples mostly of the longest keeping varieties, designed for the Southern markets. The peach trees are planted alternately between the apple, so as to be removed by the time the latter will need all the ground. About half of the trees have been planted two years, the rest one year, and a thousand or more of the peach may be expected to bear fruit the coming season. In a very few years, it is believed, one good crop of fruit from this Orchard will be worth sufficient to pay for the entire purchase of the farm.

Pomona Farm is situated near the village of West Jefferson, 14 miles west of Columbus, O., at the intersection of the National Road, Xenia Turnpike, and the Columbus and Cincinnati Railroad, and within 100 rods of the Depot; affording excellent facilities for transporting fruit and other products to market. The situation is beautifully elevated and undulating, and remarkably healthy, and is well adapted for fruit and grain growing, poultry raising, &c. About 100 rods of Osage Orange Hedge was planted on the premises last spring, and plants are now ready for completing the enclosure of the orchard the coming spring, if desired. This property was purchased and improved by the proprietor for his own permanent use, but finding it inconvenient to attend his business in town and this at the same time, he has concluded to allow some one else to reap the fruits of his labor, only asking a small return for his expenditures.

For particulars, address, M. B. BATEHAM,
Nov. 1, 1851—1.* Editor Ohio Cultivator, Columbus, Ohio.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

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ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, DECEMBER, 1851. VOL. VIII.—No. 12.

Close of the Volume.

ANOTHER year has been added to our labors, which completes the TWENTY-FIRST, since an early formed love for agricultural pursuits, and a firm conviction that no branch of industry so much needed the aid of the press, induced us to embark in the then new enterprise of an Agricultural Journal. We were, at that period, almost alone, and the support received for the first two or three years, would have driven less sanguine hearts from the field in despair; but finding a few who appreciated our efforts, and extended to us their sympathy, we persevered until we saw our favorite GENESEE FARMER increase in circulation, from a few hundreds in 1831 and '32, to seventeen thousand in 1839, when it was united with THE CULTIVATOR. We deem it no more than just to name, among those to whom we were most indebted for aid and sympathy, JUDGE BUEL, of Albany, Hon. DAN BRADLEY and WILLIS GAYLORD, of Onondaga county, men whose early and strenuous efforts in the cause of agricultural improvement should make their memory duly cherished, —DAVID THOMAS, of Cayuga county, LEWIS F. ALLEN, of Erie county, and LYMAN B. LANGWORTHY, of Monroe county, all of whom, by their constant and valuable contributions, did much to give character to our Journal, and place it on a firm basis.

Then—in 1831—there were but three or four agricultural papers in the Union, and these had a very limited circulation, and but few Agricultural Societies. Scarcely a book on rural affairs could be procured, because there was no demand for them. Farmers had little ambition, and their farms, with rare exceptions, were rapidly deteriorating.

Now, Agricultural Papers and Books are scattered broadcast over our land, and the demand for information taxes science and experimental industry to the utmost. The wonderful achievements of American ingenuity, energy, and intelligence, are nowhere more distinctly perceptible than in the change in the agricultural aspect of the Union[redacted] the rivers an[redacted], whose waters bear away the products of our soil, there have been springing up intelligent, thinking farmers. We see proof of this in the crowded fairs, in which states vie with each other in the fruit of their labors, in the usefulness of their inventions, in the beauty and superiority of their domestic animals. Neighbors, towns, counties, states and nations, are all ambitious to excel in this *first-born of arts*, and to add new dignity to a profession as stable as the soil it cultivates, as wide as the earth it tills. Science boasts not now so much of the wonderfulness and intricacy of its results, as of their useful and practical bearing. Giving each feature of this progressive age its proper consideration, we must be allowed to rank advance in Agriculture as among the *first* of our national improvements.

From all this we gather abundant reward for past exertion, and increasing encouragement for the future. The science of Agriculture is yet in its infancy. A mere fraction of the farming population are aroused to the work of improvement, and who can say that his desire for knowledge on this subject is satisfied? The past should only teach us what mighty results continued effort may bring out of the future. There are momentary demands that once met, are never again heard of. There are fluctuating interests, that demand auxiliaries as variable, but there are also fixed and deeper demands which can never be fully supplied,—interests which cannot be pressed home too closely, or consulted too much. History, as well as experience, teaches that no scheme can be carried into successful execution, that is not vitally connected with the permanent well-being of the country. That an improved and fertile soil, and cultivated, resolute, active laborers on it, are the *sine qua non* of a prosperous nation and a happy people, no one will deny. To satisfy the demand for reliable information—to direct inquiry, —to incite investigation,—to form a correct taste on subjects of agricultural interest, and to perfect a system of husbandry, are our aims. In the variety, worth, and amount of matter we present, we are determined not to be out-done. To meet, as far as possible, the wants of the age,—to deserve the support and co-operation of those to whose interests we devote our best efforts, is our purpose.

It is then with little regret that we see the close of another volume of THE CULTIVATOR, for it brings renewed hope that the seed it has sown will spring up and bear a richer harvest than any of its predecessors; and we shall [redacted] our next year's labors in the full confidence that we shall [redacted] the co-operation and aid which has been so liberally [redacted] bestowed upon our efforts during the TWENTY-ONE years now brought to their close.

☞ We are preparing a PICTORIAL ALMANAC for 1852, which will form the first thirty-two pages of our next volume, and be sent with the January number to all our subscribers.

Agriculture of Illinois and Iowa.—No 2.

BY W. G. EDMUNDSON.

CULTIVATION AND MANAGEMENT OF THE WHEAT CROP.—The past season, owing to the cold and frequent rains that occurred during the spring and early summer months, has been very unfavorable for both spring and winter varieties of wheat. The country was completely submerged with water and mud, for a period of at least three months, and on the valleys and high table lands, the crops of wheat, corn and oats, proved an entire failure throughout a breadth of territory equal to the area of the arable land of New-York. The early settlers of the country have no recollection of a similar rise of waters; and indeed the damage to the crops from this source, excepting on some of the low river bottom lands, is not to be apprehended in future seasons, any more than the inhabitants of eastern states, might with propriety anticipate occasionally a similar catastrophe. In an average of seasons, the natural tendency indicated by the topographical formation of the western prairies, would be a short supply of summer rains, rather than an excess; and this fact is here mentioned to allay misapprehensions that may be formed, by those interested in the progress of the west, based upon the losses sustained to the agriculture and commerce of this vast and interesting region of country the present season.

The wheat plant, as all experienced cultivators will admit, delights in a dry porous soil, one that will not hold any superabundance of water that may fall from the heavens on or near the surface, like a basin; but will allow, after the active soil becomes sufficiently saturated, the balance to either pass off over the surface, or else settle down into a porous gravelly subsoil a sufficient distance from the presence of the roots of plants to prevent any serious injury. Besides this, with proper farming, a dry summer is always more propitious on this continent for winter wheat than a wet one. For these reasons, and many others that in due course of time we shall fully mention, we felt warranted in arriving at the conclusion, that the day is not far distant when the anticipations formerly entertained of the Upper Mississippi Valley, becoming the most productive granary of the world, will be fully realised. The qualities of the soil, the influences of climate and the geographical position of the country, all conspire to make our prediction, among the easiest possible things to be accomplished. Abundant crops of the delicate descriptions of grain will not, however, grow spontaneously, but by investing the same amount of skill and capital in their cultivation and management, a larger yield may in an average of seasons be produced, than can be done in the Union. Although rains were so abundant the present season as to drown out the crops in the valleys, yet on all high rolling lands the average yield of wheat would range from 15 to 20 bushels per acre, where any thing like justice was done the crop in the preparation of the soil. Rust, on either winter or spring wheat, was by no means common, and the weather was of that peculiar damp and warm character that would have predisposed the crop in New-York to that disease. This great bane to the wheat growing interests of Pennsylvania, New-York and New England states, is not considered by the farmers of Illinois and Iowa, as among the necessary contingencies to check their success in growing wheat crops. This is decidedly a favorable omen, and it is one that has a greater influence on our mind than any other in producing the conviction, that the wheat growing power of these states are by no means understood by those who eagerly advise the farmers to cease growing breadstuffs, and turn their attention to the cultivation of corn, to grazing, and other branches of agriculture. It is proper here to state, however, that there are sections of country that are quite too level for the profitable growth of wheat, but by far the greater portion of the arable lands are adapted by nature for this crop. Indeed, judging from what we have already seen, we should conclude that a much greater proportion of those states may be denominated wheat soils, than could be claimed by either Ohio or New-York.

The timber invariably skirts along the rivers and streams, and in proportion as the streams get smaller the breadth of timber widens. Along the Mississippi, Illinois, Fox, Rock, Desmoines, Cedar and other rivers of the largest size, only from one to five miles in width of timber are skirted along their borders; but as soon as the traveller reaches the source of those streams, where an abundance of springs almost invariably abound and the country becomes beautifully undulating and frequently interspersed with small living streams, few or no large prairies are found, and the timber and prairie land are nearly equally divided. Wherever large streams or rivers run nearly parallel to each other, the timbered land as has already been stated, is scarce; but at the head of those rivers or streams, nature has wisely arranged a beautiful high rolling country, thickly interspersed with never failing springs and an abundance of enduring water power for hydraulic purposes; and besides the prairie and woodlands are so beautifully divided that no one need be at either much expense or trouble in owning a farm which in point of beauty and quality has no rivals in any other country through which we have previously travelled.

To those who have never seen a prairie country, words would fail in appropriately portraying their beauty so as to convey any thing like an accurate impression of their vastness and grandeur. A prairie ten miles in breadth and fifty in length, may be considered an average size for those that stretch along the larger branches of such rivers as Illinois, Rock and Demoines. But the Mississippi and Illinois rivers afford prairies many hundred miles in length and from twenty to forty miles in breadth. These large prairies are not desirable for arable culture, from the fact that the entire absence of timber gives them a perfectly monotonous appearance, so much so that it is [illegible] the eye to behold them; and besides the cost of [illegible] of [illegible] so great that for some [illegible] come they will not be sought after by capitalists or be brought into cultivation. A prairie from three to five miles in width and some twenty miles in length is among the prettiest rural sights we have yet had the good fortune of beholding. In almost every instance where prairies of this size have come under our observation, they have presented a beautiful undulating appearance, rolling back in both directions from the woodland, in a style that would thoroughly captivate the mind of every true admirer of nature, until the summit level was attained, when an unbroken stretch of high level table land intervened between the undulating portions, ranging from two to three miles in breadth, and as far in the distance lengthwise of the prairie as the eye could behold, without being able to distinguish any ob- object other than herds of sleek fat cattle grazing on the rich herbage so bounteously supplied by the hand of Providence. Bordering these prairies, ravines repeatedly join on to the belt of woodlands, which act as feeders to the streams, and carry off the over supply of water that falls in shape of rains. Since the white man has taken possession of the country, great care has been observed to prevent the fires from running over the prairies, as was formerly the case, when the red man of the forest owned the country. These ravines in almost every instance, have become skirted with a young growth of beautiful timber, in many instances a mile in width, and frequently from one to five miles in length, and occurring in favorable distances of from two to five miles apart, have a charming influence in imparting a rich and healthful appearance to the rural landscape, that can neither be imagined nor described.

There is at this time a much greater supply of wood, in Illinois especially, than was the case fifteen years ago. This supply will go on increasing, until in the lapse of twenty years timber will be sufficiently abundant for agricultural purposes. What is now much wanted is a thick growth of young timber around each quarter section of prairie, averaging some six rods in width. This could be obtained at a trifling cost, and in ten years the timber would attain the average height of fifteen feet, and would not only add to the beauty of the country, but would shelter the fields from the raking winds of winter, and ultimately be the means of supplying the country with an abundance of wood for fuel and building purposes. Live fences, where timber is scarce, are the best and cheapest for a prairie country; and at an early day we shall give our views in full, accompanied with some practical directions on this somewhat new and important branch of business to American farmers.

At the head of nearly all the streams we have yet visited, a wide range of country, lying between the heavy timbered land and the prairies, occurs, which is here denominated "*barrens*." The quality of the soil and the timber grown upon it, greatly resemble those of the oak openings, so distinguished for the growth of wheat and clover, in Genesee and Monroe counties, New-York, with the difference in favor of those of the west, that the ground is much richer in vegetable mold, from the fact that a vast growth of prairie grass, where the timber is thin, is usually seen. This deep vegetable soil, ranging from four to ten inches in depth, would relieve the farmers in a great measure from the necessity of employing gypsum as a top dressing on their clover crops, which in the east has been found indispensible for the success of the clover and the succeeding wheat crop. We learn from reliable sources that the barren lands so called uniformly are located at the head waters of all the streams of the west. These to our mind are the most valuable lands of the country; and for the cultivation of clover and wheat, and for the pasturage of sheep, will some day be as much appreciated, as has become the celebrated soil of Wheatland, New-York. It is proper here to remark that on the barrens, or oak openings, clover and sheep, are employed as the agents by which the fertilizing properties of the soil are replenished and enlarged, converting a naturally poor or barren dry soil, in process of time to one so rich and fertile and in every respect adapted to the crop, as to produce in an average of seasons from twenty to forty bushels of the finest quality of wheat per acre. These lands may now be had for from one to three dollars per acre, and indeed are thought in most cases unworthy of cultivation.

There is ordinarily sufficient timber upon this quality of land to fence it, and the clearing, plowing and grubbing will cost from $6 to $8 per acre—which with a fee simple title, will bring it up to a price ranging from twelve to fifteen dollars per acre under fence and in crop. The first year it will produce about fifteen bushels of wheat per acre, and the second year it should be summer fallowed by plowing once in autumn and twice in summer, and sowed with wheat in the early part of September, at the rate of two bushels per acre. With the wheat crop, the land should be seeded with clover and timothy and pastured or mowed, the first year, and the second year's clover pastured till midsummer, and the clover sod in the early part of August plowed as deep as possible for wheat—once plowing only would be necessary, and by breaking up the clover sod at least one month before the period for sowing, the ground will become sufficiently pulverized to be seeded with a drilling machine, which in all cases may be advantageously employed, when the land is clear and in a high state of cultivation.

The foregoing is as nearly as possible the plan of cultivation we should practice, were we to attempt successfully to grow wheat on a large or small scale, on the barrens of Illinois and Iowa. In an average of seasons, it would be reasonable to expect at least thirty bushels of first quality of wheat per acre, and the land for an almost indefinite period of time would continue to yield that or a greater quantity in periods of three years. If the whole of the clover was fed on the ground it would ultimately become so rich that damage would be experienced from an excessive amount of straw, but a skillful operator would then either cut a crop of hay in one of the two years that it would be in clover sod, or else in each breaking up plow from two to three inches deeper than the previous plowing until the soil became broken and friable to the depth of from twelve to fifteen inches. The soil, both surface and subsoil, on the barrens, is of a dry warm nature, and the surface is in all cases sufficiently undulating to constitute it in an eminent degree among the best wheat lands of this Union; yet we find that it is a perfect drug in the market, so much so that much of it can be had at Congress price, within a convenient distance of large and populous villages and settlements. The wheat plants on those barrens, are not so liable to be winter killed as on the prairies, and now and then a farmer, with whom we conversed on the subject, acknowledged that those lands might some day be brought into profitable cultivation.

The difficulty of growing in an average of years a highly remunerative crop of wheat, on a deep, rich, prairie soil, is much greater than what would be experienced under the foregoing treatment, on lands in a state of nature, so poor that it is thought at the present time to be so worthless that it would not pay the cost of clearing, fencing, and cultivation. These difficulties, however, are not of that nature as to make them insurmountable by a scientific farmer, or one, rather, who understands adapting his soil to the requirements of the particular crops he attempts to cultivate. Winter killing by winter and spring frosts; the blowing of the small particles of the soil on the surface, thus exposing the roots of the plants to the action of the rays of sun, and to frosts; and the almost total absence of snow, by which no protection is given to the wheat crops during winter, are among the serious obstacles that a western prairie farmer has to contend with, provided he makes the business of wheat growing a primary object. These may be sufficiently obviated by a clever process of engineering, if the term be admissible in this instance, so as to secure, in ordinary cases, favorable results. Deep culture is a prominent feature by which a moderately deep vegetable soil can be fitted for the success of the winter wheat plants. In all cases where it is practicable to bring to the surface from two to three inches of clay, no reasonable effort should be spared to effect that object. The late autumn months, if other things be equal for the performance of this labor, are the best calculated to ameliorate an inactive soil, from the fact that the frosts of winter have a more perfect mechanical action on stubborn, or inert soils, than any other agency. In all cases where very deep plowing is attempted, with a view of ultimately preparing the soil for winter wheat, the fall or winter should be chosen for the performance of the work. As autumn plowing is ordinarily done, it frequently not only does no good, but a palpable damage is done the soil for the succeeding crop. If plowed in flat beds, or lands, with few or no parallel furrows for the water to pass off from the surface, the freezing and thawings during winter and spring will cause the mass to run together, and in the spring, instead of breaking up fine and mellow, the soil will be cloddy, and totally unfitted for profitable cropping. Narrow lands with deep water furrows, appear necessary to obviate this evil; but on some soil the natural tendency is to wash along the furrows so as to make deep trenches, unfitting the land in many instances for cropping, without a large expenditure be made in reducing the surface to a perfect level. This influence of course must be guarded against, and it would be better not to attempt autumn plowing or deep-water furrowing unless, a great advantage would certainly accrue from them. The best method with which we are practically acquainted for deepening soils, is a species of deep trench plowing which is entirely unknown in the western country, and which, if neatly done, would act like a charm in pulverizing, and in changing the wild and adhesive character of new prairie soils. A plow that will naturally turn a furrow of fifteen inches, is set to turn thirty inches, and consequently only one half of the thirty are turned. The fifteen inches acted upon by the plow is made to rest neatly upon the portion not turned, so that the two extreme edges are brought exactly together. If the furrow be turned six inches in depth, the frost and atmosphere will act upon a surface of forty-two inches, instead of thirty in the ordinary case. The whole surface of the field would then present a trenched or ribbed appearance, exposing a much larger surface to the action of frost than would ordinarily be the case, and at distances of thirty inches would be a deep drain, which would thoroughly carry off any surplus water that might otherwise remain on the surface. In addition to this, a sub-soil plow might be made to pass along each furrow to the depth of six or eight inches, which would still deepen the soil, and by mixing the sub-soil, thus tempered by frost and the atmospheric influences, a consistency would be given to the whole surface acted upon, which would eminently fit it for the production of wheat or any other crops, with much less labor than would be required if the common method had been practiced. Sod thus broken, by the two surfaces being brought evenly together, will undergo a more perfect decomposition than by any other process. The furrows being so close together, and numerous, will prevent the soil washing to any extent, and when plowed crosswise in the spring, the work may be commenced much earlier than land not thus treated, and the whole will be reduced to the finest possible tilth.

To prevent winter-killing of wheat, a fresh inverted clover sod, turned up in narrow lands; a liberal seeding of about two bushels per acre; early sowing; and drilling in the seed in rows about nine inches asunder, are among the mose feasible plans we are prepared to recommend to the favorable attention of those who may attempt to grow this crop extensively on a prairie soil. Where the land is properly prepared for the use of the drill, it will perform an important office, such as no other implement could effect with so little cost. The plants being in rows, become stronger than if scattered promiscuously over the ground; the roots intertwine in each other so perfectly that the frost can not remove the one without the others; the tops of plants form an umbrella covering, which protects the roots from early and late frosts, and hence the crop will arrive at an earlier maturity; and the free circulation of air between the rows imparts a hard outer surface to the straw, which will naturally aid it to resist the attack of rust and fungus productions. Some, we are aware, will object to sowing two bushels of seed per acre on a rich prairie soil, but if the system of culture we have hastily submitted for public trial and criticism be tested, we pledge our word for it that in nine cases out of ten the result will be highly favorable, and when the system becomes generally practiced, the cry of hard times will be among the things that were. *Keokuck, Iowa, Oct.*, 1851.

Get in wood for fuel before snow falls deep. See that animals are well sheltered.

State Cattle Show at Baltimore.

We are indebted to our friend Dr. G. B. Smith, of Baltimore, for the following notice of this show, which appears, from all accounts, to have been one of the best ever held in the country.

Fourth Annual Cattle Show and Exhibition of the Maryland Ag. Society.—This great exhibition commenced on Tuesday the 21st of October, and closed on Friday evening the 24th. It was the most splendid affair that has ever taken place in this State, and according to the opinion of many good judges, superior to anything of the kind that has ever occurred in the United States. At all events it is difficult to conceive how, or in what point, it could have been surpassed *anywhere*. The writer of this has been familiar with such scenes for thirty years, in all parts of the country; and has carefully read details of those in Europe, but, taken as a whole, he is free to say the Maryland display of 1851 was unrivalled. In only two points this affair did not equal some of the Northern shows: *Beef Cattle* and *Visitors*. The first was strangely neglected by the graziers within our jurisdiction,—who supply the best beef in the world, and to whom the Philadelphia and New-York victuallers are indebted for a very large portion of their best supplies. Even in this point, however, there was a good display, and even old John Bull could have supplied himself with roasting pieces to his jolly heart's content. Of the second point, *visitors*, if the numbers compared with *agricultural population* be considered, it will be found that even in this view we carried off the palm-triumphantly. Peculiar circumstances rendered the receipts at the gate small in proportion to the number of visitors. The ground and buildings are owned by a large number of stockholders, all of whom were entitled to free admission with their families, and to *duplicate* or transferable tickets in number according to the number of shares of stock held by them; and all members of the Society and their families; and all exhibitors, servants and assistants, were entitled to free admission. It will be obvious that these free admissions embraced a very large portion of the attendants; and yet the receipts at the gate amounted to upwards of *five thousand dollars* for admission alone. The friends of agriculture, therefore, may congratulate themselves on the rapid strides this great interest is taking in the improvements of the age.

The grounds of the Society are located about two miles from the center of the city, and about one-fourth of a mile from its northern limits. They comprise about twenty acres, nearly in the form of a square. About three-fourths of the ground is clear of timber, and the balance handsomely covered with a grove of thrifty oaks. A large portion is a fine level, the rest a gentle elevation, on which the buildings are situated. The Society's buildings are, a large "Household Hall," in the form of a cross, for the accommodation of all the various domestic fabrics of the farm-house, dairy, &c. A large ladies' saloon, a large house for office use, a vegetable exhibition hall, &c., and five large refreshment houses. All the ground is enclosed with a high board fence, and the whole line of the fence inside is occupied by stalls and pens for cattle, horses, hogs, sheep, &c. There are nine hundred stalls and pens, all substantially built, and under roof. The high ground or grove is, to a considerable extent, occupied by pens for poultry, sheep, &c. Besides the Society's buildings, there are two others built and occupied, one by Mr. Whitman, the other by Messrs. Sinclair & Co., for the accommodation of their extensive collections of agricultural implements, and add greatly to the effect of the scene. The property having been purchased by a stock company for the use of the Society, it will be improved and arranged with a view to permanency.

The exhibition of improved cattle was very imposing, and comprised all the various breeds of any note; improved Durham short horn, Devons, Ayrshires, Holsteins, Alderneys, &c., to the number of about four hundred head. Numerous horses for farm purposes, of light and heavy draft, mules and jacks, embracing many of the most useful breeds known, were exhibited. The number of the various breeds of swine was very great, and finer specimens could not be produced anywhere. The writer felt much gratification that it did not fall to his lot to act on the committee of judges to award premiums for *the best* in this department, it would have been so difficult to select any ten out of the several hundreds that were entitled to much preference. All the various breeds of sheep were also there in great numbers. The new Oxfordshire sheep attracted great attention; but the most remarkable sheep were those exhibited by Mr. Bingham of the State of Vermont, being three French Merinoes, lately imported by him. These came too late for competition, but afforded much gratification. The poultry pens were supplied with a very extensive collection of the feathered tribe, of every known breed. Thousands of well informed people expressed astonishment at the great additions and improvements that have been made in this department of rural economy. The collections of implements and machines exceeded, beyond measure, anything heretofore seen. Every description of machinery used in agriculture and the domestic arts was there in great profusion. Threshing machines, worked by horse and steam power, mills for grinding corn, and corn and cob crackers and grinders, straw and hay and root cutters, &c. &c., a list of all of which, a mere catalogue, would occupy a whole year's publication of The Cultivator. The *portable* sawing machine of Mr. Page, however, ought to receive special notice, as it is calculated to effect a wonderful improvement in the whole country, in facilitating the construction of plank roads. It is easily transported to the spot where the timber grows. Is worked by either steam or horse power, and cuts the plank of any desired length and thickness, with wonderful precision and speed. With these saw mills on the lines of projected plank roads, the construction of these most valuable improvements is rendered both cheap and easy. The time is at hand when plank roads will be as important to the country at large, as railroads themselves, if indeed not more so. They will everywhere be used and will form the connecting tracks between farms and small towns and feeders of railroads, and this saw mill of Mr. Page will be the active agent in their construction.

In conclusion, I regret that the Editors of the Cultivator could not have been here to see this our great exhibition. I inclose a detailed list of the premiums awarded, and from this you may judge somewhat of the extent of the exhibition. I do not suppose you will be able to find room for it in The Cultivator, even if you have time to count the number of premiums.

Farming in Delaware County, N. Y.

Eds. Cultivator—Having just returned from attending the meeting of the Delaware County Agricultural Society, held at Delhi the 8th and 9th of this month, I thought I would jot down some few remarks growing out of the occasion. Slight and unimportant as they are, they may at some busy moments answer the imperative cry of "copy," when you could not, otherwise, conveniently attend to it.

A stronger and more real motive, however, is that in this day of intelligence, when the enlightened farmer is sensible that an agricultural paper is as necessary to his business as an almanac. I know of no way in which I can so well venture a few suggestions to the rising Scotch agriculturists I there met, as through the medium of the "Cultivator"—presuming always, that a community, apparently so bent on advancement, would not neglect so important an assistance. Indeed, I am inclined to estimate the intelligence and advancement of a rural district, in some degree, by the number of agricultural periodicals it requires.

From Morris to Oneonta, we had a beautiful drive over a fine road. Here we crossed the Susquehanna. Leaving it to wander down its own fertile valley, we commenced clambering our way over the rough and stoney mountains of Davenport, thence dropping into the little valley of the Olcout, we soon recommenced our toilsome way to the high lands of Merideth. Here the scene changed, and our view opened on well cultivated fields, regular enclosures, and comfortable homesteads. A handsome residence, with a fine farm of eight hundred acres, was pointed out to us as belonging to S. A. Law, Esq., president of the County Ag. Society, and whose great exertions, in common with those of some few others, have, I am told, infused an energy and vitality into the society, that promises higher results than have heretofore been attained.

We now had descending ground, and a tolerable road into the pretty village of Delhi, which we reached about noon. I will here remark, that had we returned home by the same road, we might well have wondered what interest or what object there could have been in either claiming or defending such lands; but returning, as we did, by Franklin, we were shown a very improved face of the county, and we could not sufficiently admire the industry, perseverance and skill, which had thus tamed down and subjected to the plow such wild lands.

After dining at a most comfortable and excellent hotel, belonging to Judge Edgerton, we walked to the ground enclosed for the Exhibition, where we found a variety of stock from breeds, evidently selected with that good sense and judgment which gives due consideration to the circumstances of climate, culture and character of the farms on which they were to be placed. In the various sheep pens, were to be seen some admirable "Cheviots," showing purity of blood and great constitution; near them were a few good South Downs, ready to enter the lists with their hardy rivals of the mountain, and claiming something on the score of earlier maturity. There also was to be found the little Saxon and its various Merino crosses, wrapped in their light but beautiful coats of exquisite wool; a dress somewhat more aristocratic, I must allow, than the frieze jackets of their Highland and English neighbors; but winter, sharp biting winter, will decide their relative value. Two French Merino lambs were also on the ground, from the flock of Mr. F. McIntosh, of Otsego co., which created much speculation and no small inquiry, this being quite a sheep district.

The display of working oxen told its own story, for with the exception of a few yoke, they were ill-matched, ill-trained, and ill-conditioned, and evidently of small account with the Scotch farmer, who undoubtedly finds his team of small active horses much more suited to his hill-lands, than the slow, heavy movement of oxen.

The cows exhibited, were, I doubt not, remarkable for the *dairy* properties for which they were shown, and this is as it should be. They were, (as all deep milkers must be,) light in condition, and not moving masses of flesh, hardly yielding milk enough to cover the bottom of a pail, but making beef instead of butter; and yet I have seen such immensely fat animals take premiums as "*cows*" over those that *did make butter*, and consequently could not *cover themselves up in fat*.

Dairying, which admits the active labor and co-operation of a whole family, (from the "chiel" who drives the cows to the byre, up to the bonnie lassie who helps her mother milk) is well suited to the industrious habits of this people, and is pursued by them to a great extent, and with such attention, care and economy, as secures a profitable and ready market for its products.

Tenacious as the Scotch may be of habits acquired in their father-land, (and better habits no people need bring with them,) I nevertheless find that the wooden milk dish has for the most part given way to the neat tin pan of the Yankee, saving the "gude wife" much time and trouble in washing, airing and drying; and something too has been conceded on the absolute necessity of every pan standing on an *earthen floor*, a creed strongly insisted upon in Ayrshire.

Before leaving this portion of my subject, I will again repeat what I suggested on the spot—that the dairy farmers should form amongst themselves a company for the importation of "Ayrshires." Let them be yearling heifers, or "queys," as they are called, from the "Moor-edge," selected by one of themselves—not from the "*improved*" families at high prices, but bought in fairs at the now moderate cost of five to seven pounds a head; and ship them, direct from Glasgow in a vessel belonging to that port, which will take them at a very moderate freight; the shippers providing all necessary fodder and *water*—the ship furnishing casks by *agreement*.

Having a brother whose estates lie in Ayrshire, I made myself well acquainted with the breed of cattle, and consider them, in their own pastures, a *most valuable dairy* stock—how they would *transplant* is the experiment to be tried; and I know no community nor any district to whom its success would be so important; or who, proving it successful, would derive more advantage, or more decidedly establish the value, in this country, of the Ayrshire breed as a *dairy* stock.

In the county of Delaware, where oxen are neither fed nor worked to any extent, and the cow is only valuable for her dairy properties, everything should give way to this excellence, and therefore size is undesirable, early maturity is not of much importance, and the feeding property quite a secondary consideration, if either the one or the other is found to interfere with the milking qualities.

The plowing was of course most excellent. It is the very pride of a Scotch farmer to do this part of his work well; he considers it the foundation of all good farming. In the Butternuts we are especially indebted to our Scotch neighbors of Burlington, for a vast improvement in this particular, and now our young American farmers press close on the heels of their instructors.

But very few swine were on the ground. In a dairy country I had expected a larger show of this most useful animal, as but few calves, comparatively, are now raised in Delaware. Nevertheless, two fine sows, with their litters, showed a thorough knowledge of this description of stock. Of horses, I have still less to say—though I doubt not they were well suited to the country and its work,—small and active. they travel this hilly country with much more ease than a heavier and larger horse.

Possibly, some might have felt disappointed at not finding here stall-fed oxen, monsters in obesity—fine, large, high-headed and high fed steers in the yoke—Short-horns, imposing in size and beauty, or sheep of the long-wooled families, heavy but indolent; I was, however, better pleased by observing the close attention which had been paid to that important principle in all good breeding, of "*suiting the animal to the soil*"—a point too frequently over-looked by purchasers of fine stock, who at the moment may be more attracted by the individual excellence of an animal, than mindful of the suitability of the position to which they contemplate transferring it.
R. *Morris, Otsego co., N. Y., Oct.* 11, 1851.

* * *

Characteristics of the Season, 1851.

The spring, in the Northern States, was cold and backward, and even through the summer months, the amount of really warm weather was less than usual. May, June, and August were characterized by an unseasonably low temperature. July and the fore part of September were warm,—the season presenting in this respect singular contrasts. A marked contrast has also been afforded between the present and last year, in regard to the amount of rain which fell during summer and autumn, as will be seen by the following comparison

	1850. Inches.	1851. Inches.
May,	6.01	2.61
June,	5.72	4.57
July,	8.57	3.48
August,	2.50	2.17
September,	6.56	1.27
October,	4.31	2.93*
	33.67	17.03

There has been no season within the recollection of the "oldest inhabitant," perhaps, when so large a portion of the country has experienced to the same extent as this year, the effects of drouth, though there have probably been years when more damage, in the aggregate, has been done to crops from this cause. The drouth has extended from Virginia and Kentucky northward to the Canadas. Within this extent of territory, however, there are belts and small tracts, which have been so favored with occasional rains, that vegetation has received nearly a supply of moisture. Streams and springs are very low at this time, (Oct. 29,) and unless copious rains should fall before winter sets in, much inconvenience will be experienced.

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* Of the amount in this month, 1.42 inches fell on the 29th and 30th.

Hay was a full crop, coming off in most sections before the drouth had become severe. The quality is generally good. It is fortunate that the country is well supplied with this important article, as, from the scarcity of grass, farmers have, in many instances, been under the necessity of feeding their stock considerably from the barn or stack, for several months.

Wheat gave a good return over nearly the whole country. The yield was somewhat lessened by drouth in the Southern States, but even there, the superior quality of of the grain fully compensated for any deficiency in quantity. In almost every section, with the exception of Wisconsin and a portion of Illinois, no complaint has been heard in regard to this crop. In the eastern part of New-York, and in fact throughout all the eastern part of the country, so large an amount of this grain has not been obtained for many years, and taking the whole country together, the aggregate product is doubtless beyond any former precedent. The great success which has attended the culture of wheat in the eastern part of the country, within the last year or two, is owing in a great measure to the adoption of a variety of wheat, the Mediterranean, which, from its habit of early ripening, has escaped the wheat-midge, an insect which for several years almost totally destroyed this crop. This enemy is gradually extending itself west, and in the western counties of this State, and in Ohio, has done considerable injury the last and present season.

Rye has been less cultivated, in what have been considered the particular districts for the production of this grain, than formerly, because the farmers have returned to the culture of wheat—the latter yielding the most profit. Rye, however, gave about its usual yield.

Barley yielded much better than last year, and the quality of the grain was also superior. The crop has sold at a fair price, nothwithstanding the large yield. The market was chiefly cleared of the old stock before the new came in. Prices have lately ranged from 75 to 80 cents per bushel.

Oats were better in this vicinity, both as to yield and quality, than last year, but as far south as Virginia and North Carolina, the crop was hurt by drouth. This crop is regarded with much favor by many farmers. It can be produced in many situations where other grains would not flourish, and it meets with a ready sale at a price comparatively high—40 to 42 cents per bushel being frequently obtained, in the valley of the Hudson river, for oats that are brought early into market. They are always in demand as horse-feed—experience having shown that there is no food so congenial to the animal, being easy of digestion, and imparting both strength and spirit.

Indian corn has fallen short of an average yield over a large portion of the country. This deficiency in the Middle States was caused chiefly by drouth, but in the northern sections, we are inclined to attribute the failure more to the coldness and wetness of the weather in May and early part of June, in connection with the great injury done to the crop in its early stages by the wire-worm. Heavy rains were frequent in this section soon after planting, and continued for some time while the crop was small. The rains were followed by high, drying winds from the west and north, which by rapid evaporation caused the soil to become heavily consolidated, with a hard crust on the surface. This state of the soil, with the cool temperature, and the attack of the wire-worm, so checked the crop that it never fairly recovered, except in very favorable locations. The crop was backward, in ripening, and but for the unprecedented heat of the first twelve days of September, (the maximum height of the mercury having been for several days above 90°, in the shade,) it would not in this part of the country, have escaped injury from frost.

Potatoes, as usual, are more or less affected by the rot, though we think the crop is more sound, and the yield generally better, in the eastern part of New-York and in the New-England States, than for several years before. In the western part of this State, however, the rot or disease, has prevailed to a great extent. Nothing new, of importance, has been brought out in reference to this malady, except that many new conjectures in regard to it have been proved to be unfounded.

Buckwheat, so far as we have learned, is almost a total failure. In a large portion of New-Jersey, and in parts of Pennsylvania and Maryland, it is a crop of considerable consequence, and in these sections it was cut off by drouth.

Fruits have succeeded well in some sections, while in others they have failed. Throughout a large portion of the Western States, apples, pears, cherries, &c., were mostly destroyed by a frost in May. In the northern parts of Ohio, Indiana, &c., we are informed, there is a partial crop of apples. In New-Jersey, the southern portion of Pennsylvania, Maryland, &c., there is a greater scarcity of apples than has occurred for several years. Whether the failure in the latter districts was caused by frost, we are not informed. In New-York and New-England, we believe fruits in general have succeeded well. Winter apples of fine quality are plenty in market at $1.50 to $1.75 per barrel. Plums, a crop of considerable value in the vicinity of Albany, were abundant, but hardly of as fine a quality as usual, for the want of warm weather while they were growing. Grapes, in the open air, have not attained their usual flavor from the same cause.

HOW NATIONS CAN ACQUIRE WEALTH.—There seems to be but three ways for a nation to acquire wealth: the first is by war, as the Romans did, in plundering their conquered neighbors—this is robbery; the second by commerce, which is generally cheating; the third by agriculture, the only honest way, wherein man receives a real increase of the seed thrown into the ground, in a kind of continual miracle, wrought by the hand of God in his favor, as a reward for his innocent life and his virtuous industry.—*Benjamin Franklin.*

The Mineral Manure Theory.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Oct. 24, 1851.

EDS. CULTIVATOR—The subject which I have placed at the head of this letter, is not one which can be fully discussed in a single page of your journal; and yet it is one of so much importance that I desire to make a few explanations and statements, regarding the shape which it has now assumed among scientific men. When I mention the "mineral manure theory," I speak of that view of manures which ascribes all, or nearly all, of their efficacy to their mineral constituents.

The principal supporter, and indeed the originator of this theory, is Prof. Liebig. This distinguished chemist, distinguished no less by his clear and lucid style, than by his high scientific reputation, was for a time devoted to "the ammonia theory," excluding those mineral manures to which he now attaches so much importance. A few years since, however, he saw cause to change his ground, and has since held, that if we furnish mineral manures in abundance, plants will, without doubt, always obtain their ammonia, or rather their nitrogen, from the atmosphere or the soil.

In pursuance of this idea, he went so far as to compound, after careful study of ash analyses, specific mineral manures for wheat, rye, oats, turneps, &c., which were to take effect upon all soils in a proper physical condition. The failure of these specific manures, which were patented in England, was, as many of your readers doubtless are aware, very decisive. I had supposed the subject rather at rest, but find that in the last edition of Prof. Liebig's "Letters on Chemistry," published so late as the commencement of the present year, he reiterates his former views on this subject in a most decisive manner, and prophecies that our future agriculture will depend upon them, however much we may distrust and disbelieve them now. I have also had occasion to observe quite recently, that some gentlemen of high standing among our own scientific men, follow Liebig in this as well as in other theories. For these reasons I have thought it best to express my own opinions on this contested point, in order that our farmers may be aware, that all chemists do not hold to views which militate almost directly against the ordinary results of practice.

My belief is, that when Prof. Liebig advocated "the ammonia theory," he was nearer right than he is now, when he only admits the necessity of mineral manure. Not that he was right then, but that better results would, in most cases, be obtained by the farmer in the use of ammoniacal or nitrogenous manures alone, than by the use of mineral manures alone. We find land in all parts of the country, where strictly mineral applications, such as lime, plaster, marl, &c., fail to produce any very marked effect; but if upon any of our fields we apply guano, or sulphate or carbonate of ammonia, the character of the vegetation is at once changed, its color alters, its luxuriance and vigor increases, and in a great majority of cases the product is augmented.

Every farmer who has observed such matters intelligently, knows that the above statements are correct; indeed they have been so far applied in practice, that the quantity of ammonia which any manure contains, is taken as the highest standard of its value. A guano, for instance, with the usual percentage of ammonia, will bring twice as much as one which contains little ammonia, even though this deficiency is replaced by the most valuable possible mineral constituents.

I must not be understood to say, that mineral manures are not valuable; on the contrary, I have the highest opinion of them, and recommend their application in almost all cases where my advice is asked; the mineral constituents of the plant are no less indispensable than its organic part, and if one or two of them are absent from the soil, the plant will not flourish. There are many instances of these special deficiencies, which special mineral manures alone will supply, and there are certain mineral substances which have been found specially valuable; the most so of all these is phosphoric acid. Now, the *phosphates*, that is, the compounds of this acid, are not more necessary to the plant than are the *alkalies*, but the supply is far more apt to be scanty, and this—not its intrinsic importance to the plant—is the cause of its higher value to the farmer.

The same principle applies when we say that nitrogenous manures, of which ammonia is the most common form, are more valuable than any others known in agriculture. They are volatile, easily decomposable, and very soluble; for all of these reasons they are extremely apt to disappear most rapidly. These manures, then, are worth more to the farmer than any others, because they are most likely to be needed, and because their scarcity renders it somewhat difficult to obtain a full supply. I make these statements fearlessly, and confidently, although against so high an authority as Liebig. I should not presume to oppose him on mere theoretical grounds, but feel that I am here sustained by almost uniform practical results.

It must be acknowledged that we have *occasional* instances reported, of plants grown upon soils nearly or quite destitute of vegetable matter; but in most of these that have fallen under my observation, the fact of the *entire absence* of vegetable, and particularly of nitrogenous matter, has not been sufficiently established. The information that they give is neither entirely definite, nor well enough made out by continuous and careful experiments, to be set off against the immense array of facts brought forward in favor of the opposite view. Single experiments for a single year, must always be looked upon with distrust until amply verified, and it is by mainly trusting to such, so far as we are informed, that the exclusive mineral theory has been built up. The laboratory alone is pretty sure to go wrong when it attempts to prescribe rules for practice; the chemist must go into the field and study actual experience, if he would serve the farmer effectually.

It has been my intention to experiment somewhat largely upon this particular subject, but in the last number of the Journal of the Royal Agricultural Society of England, is a paper by Messrs. Lawes and Gilbert, that almost precludes the necessity of doing anything more. These gentlemen have been experimenting on a large scale during the last ten years, and their results are clearly and admirably set forth.

They took a field at the close of a four years rotation, when the manures added at the commencement of the course were exhausted.' On this ground they have cultivated wheat for ten years, under various conditions. One plot remained unmanured, and the produce of this served as a standard and starting point for comparison during the whole period. Thus, if its yield in 1845 was 17 bushels per acre, the improvement over this in an adjoining plot, otherwise the same, was set down to the advantage of whatever manure had been employed. Such a system of cropping, continued for so long a time, obviously affords results that are worthy of much confidence.

The first year's comparative practice, was made with various approved mineral manures alone. It was found that even by the addition of large quantities of these, the increase of product over the unmanured plot was but trifling. In the next year the same character of mineral manures was employed, but with the addition in several cases of ammoniacal or nitrogenous substances; in all of these the effect was quite marked, the yield increasing to 10, 12, and 14 bushels, above the unmanured plot.

This, in short, was the character of all the results; sometimes ammoniacal manures alone were added, and then the increase was several times more than by mineral manures alone. One experiment was very striking. Four hundred weight per acre, of Liebig's special mineral manure for wheat, was applied to a plot, and produced an increase of but about two or three bushels; upon this same plot, in the next year, a purely ammoniacal manure gave an increase of ten or twelve bushels. To make the experiment still more conclusive, no manure was added to this plot for the next crop, and the yield then fell again almost to the original standard. These trials seem to me perfectly conclusive in this matter, so far as wheat is concerned; they prove that ammoniacal manures increase its growth far more than mineral manures, where both are already present in moderate supply, and that the addition of any amount of the latter will do little good, unless the former be also present.

These views are still farther sustained, by a very able paper in one of the late French Scientific Journals. The experiments in this case was made upon oats, and were between forty and fifty in number. They commenced by growing them out in sand, first deprived of everything soluble by acid, and then burned to drive off all vegetable matter. In this, as might have been expected, no perfect plants were produced. One mineral substance after another was added, until at last it was found that with a certain *seven* of them, the plant flourished better than with any others. It, however, was still far from luxuriant, or from yielding a fair amount of grain; it was not until some manures containing nitrogen had also been added, that entirely healthy, fertile and strong plants were obtained. These experiments appear to have been very carefully conducted, and furnish important confirmation to those of Messrs. Lawes and Gilbert.

There are other questions involved in these experiments, which for want of space cannot be discussed here; the main point is, I think, fully established. The farmer may supply special deficiencies by special mineral manures, and should aim to keep up the supply of mineral substances in the soil; but he cannot render it fertile, and continue it so, with them alone; he must also supply nitrogen in some form, and will find it in a great majority of cases the most important and efficacious of all fertilizers. In despite of *theoretical* views to the contrary, he will find that in *practice*, he can best afford to give a high price for those manures that are especially rich in ammonia, or some other compound of nitrogen. Yours truly, JOHN P. NORTON.

Close of the Great Exhibition.

An exhibition of the industrial products of all nations may be considered a new feature in the world's history. Hitherto the strife of nations has chiefly been to circumvent each other by the game of war. The present year will even be remembered as marking the time when the first great step in checking this selfish and aggrandizing spirit was taken—when in compliance with a cordial invitation from one of the greatest reigning powers of the globe, all nations were assembled, by their representatives, for the purpose of comparing the progress of each in those arts which conduce to the welfare and happiness of man.

The general effect of this exhibition cannot but be salutary on the world at large. Its tendency will be to promote peaceful relations, to do away monopoly, and to diffuse useful knowledge among men. The *London Morning Chronicle* well remarks—" We have, as yet, no standard whereby to measure the probable consequences of the gigantic undertaking. It has shown to the nations of the world what each can do,—animating, inspiring, and instructing all. National prejudices, antipathies, and animosities, have given way before the 'natural magic' of its influence. A mighty lesson has been unfolded for mankind, bidding all to note the wisdom, and the goodness, and the glory of Almighty God. The lesson cannot, will not, have been read in vain."

The description of the exhibition has formed a prominent topic in the newspapers and periodicals of the day, on both sides of the Atlantic, and most of our readers are sufficiently informed, through the letters of Mr. JOHNSON, which we have published, and from other sources, in regard to the most interesting particulars. It was finally closed on the 11th of October.

Total number of visitors, 6,201,856.

RECEIPTS.

Public subscriptions,........................	£64,344	0	0
Privilege of Printing........................	3,200	0	0
do Supplying Refreshments,...	5,500	0	0
Season Tickets........................	40,000	0	0
Received at the doors to 11th of Oct.,........	356,071	13	0
Total,......	£469,115	13	0

The liabilities amount to £170,743, thus leaving an available surplus of £298,372 13s.

The awards of Council or Great Medals, to our countrymen, were as follows:

Joel Borden, Jr., Texas, for a preparation called Meat Biscuit.

David Dick, Meadville, Pa., for Anti-friction Press.

C. H. McCormick, Chicago, Ill., for Reaping Machine.

Wm. Bond & Son, Boston, for the invention of a new mode of observing Astronomical Phenomena.

Charles Goodyear, New-Haven, Ct., for India Rubber Fabrics.

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Produce of Twelve Acres.

EDS. CULTIVATOR—I am induced to give you a short description of a piece of land near the Niagara River, on the farm of Moses Cherry, Esq. The land in this neighborhood is rather peculiar. That portion where black-ash timber grew, though wet and swampy, is excellent land when fully drained, even with open drains; while the land nearer the river, and on either side of the ash tracts, is poor and scarcely worth cultivating. On the portion where the black-ash grew, is a friable, mellow loam, of seven or eight inches, or even a foot in depth, resting on a tenacious subsoil. On the dried soil surrounding these swamps, is a stiff barren clay, into which the roots of plants can penetrate only with difficulty.

The following is the produce of twelve acres cultivated by Mr. Cherry last season.

800	bushels of corn in ears, sold at 25c.,	$200 00
750	do potatoes at 50c,	375 00
135½	do wheat at 100c.,	135 50
		$710 50

Mr. Cherry had 35 acres of wheat this season, (1851,) which averaged upwards of 30 bushels per acre. In the management of his land, his first object is to drain the surface, fairly, which has been done so far mostly by open drains, and thus managed, the produce is abundant. Wm. H. Sotham. *Black-Rock, Oct.* 17, 1851.

◆

Laying-in Trees for Winter.

A correspondent wishes to know the best mode of preserving removed fruit trees, intended for spring planting, from mice and severe frost during winter. In answer—set them *upright* on the surface of the ground, or in a moderate hollow dug for the purpose, and then bank up the earth into a broad mound about them, raising it well up the stems. Mice will never ascend a fresh bank of earth under snow. The trees should not be placed so compactly together as to prevent the earth from filling in pretty well among the interstices. If rather tender, incasing or thatching with two or three inches thickness of any evergreen boughs, will afford good protection from severe cold.

◆

Large and Small Potatoes.

Eds. Cultivator—I perceive, by recent communications in your paper, that although potatoes have been raised for more than two hundred years, it is still disputed whether large or small ones are the most profitable to plant for seed. Being myself in the dark on this point, I concluded to contribute my mite towards the solution of the problem by submitting it to the test of experience.

On the thirtieth of April, 1851, I planted, on one square rod of land, in seventy-two hills, seventy-two small potatoes, from the size of a hickory nut to that of a hen's egg. The seed measured about two quarts, and weighed three and a half pounds. To plant an acre in this manner would require ten bushels of seed. On the same day, on a square rod adjoining, I planted seventy-two large potatoes, in seventy-two hills, placing one in each hill, without cutting. The seed measured more than a peck, and weighed fifteen pounds.

On the twentieth of August, I dug both patches. The product of the small potatoes was five pecks, weighing eighty-four pounds, which would give a yield of two hundred bushels to the acre. The product of the large potatoes was one hundred and fifty-eight pounds, measuring nine pecks, which would give three hundred and sixty bushels to the acre. The vines averaged four to each hill, while those of the small potatoes were only three. The vines from the large potatoes grew much faster and larger than the others, but in the size of the potatoes there was no great difference.

When I planted the two patches, I expected the product would be about alike. Not being yet satisfied that so great a difference will always result, I shall try the experiment again next season.

Last year there was no rot among the potatoes in this part of the country. The early part of the season was cold and very dry. The same kind of potatoes on the same farms, with the same cultivation, are now rotting badly. I attribute the prevalence of the rot to the great amount of rain that has fallen here the present season. T. F. *Scio, Mich., August* 23, 1851.

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Protecting Tender Roses.

The Prairie Farmer has for several years successfully protected tender roses by covering them with tan-bark, and then shielding the tan-bark from rains by a covering of boards. A Tea rose, which had always stood without injury by this treatment, was accidentally deprived of the shelter of the boards, by which the tan became soaked with rain, and the plant was destroyed. For the same reason, the soil must be well drained. Stripping off the leaves before covering, prevents their decay in contact with the stems, an occurrence often causing portions of the bark to blacken with decay.

ANSWERS TO INQUIRIES.

Intermixture of varieties of Corn.—Tyro, Greenfield, Mass. If common and sweet corn are planted side by side, smooth grains will, as you say, be found on the ears of sweet corn and shriveled grains on the ears of the common corn. If you take the smooth grains from the ears of sweet corn, and plant them by themselves, the produce will be various—most of the grains will show of the character of the sweet corn, seldom being as hard and flinty as the original flint stock; some will, probably, be more or less shriveled. If the shriveled grains are taken from the ears of common or flint corn, and planted by themselves, the crop raised will also show the intermixture of the varieties; there will not be a strict uniformity in the produce, some grains being almost identical with the pure sweet corn, others of a medium, or half and half character, others scarcely deviating from the parent flint. But the result of the mixture can be worked out, in the course of several generations, so that it will scarcely appear, by carefully selecting for seed the grains which most resemble the original stocks, and planting them where there can be no further amalgamation. By a similar course, a new hybrid variety can be produced. Many varieties are known to have thus originated. The Darling sweet corn may be named as an example. This was produced by a cross of the sweet with the early Canada corn. The seed of the hybrid variety was taken from the stalks of the Canada—the object being to produce a sweet corn with the habit of growth, or early maturity of the Canada. The shriveled grains which most closely resembled the sweet corn, were picked out of the ears of the Canada, a crop raised from them, and the sweetest grains again picked out of this crop, and so on, till after eignt years' careful selection, the new variety became well established.

Cabbage and Turneps for Milch Cows.—D. B. R., Dutchess county, N. Y. There is perhaps no crop which would afford a larger amount of food than cabbages, but they, as well as turneps, are likely to impart a disagreeable taste to milk and butter. Pumpkins are excellent to feed cows, and by being protected from frost, may be kept till December, or later. Carrots are preferable to any other roots for this purpose.

Mixing Ashes with Manure.—"A Lover of Farming," Walpole, N. H. "Do wood ashes operate on manure in the same manner as lime?" Lime tends to liberate the ammonia of manures, by combining with the carbon with which the ammonia was previously united, thus setting free the latter. According to Mr. Bartlett, whose communication is given in our November number, wood-ashes have a similar tendency to liberate ammonia. We cannot refer to any experiments made to test this point. It is not improbable that something of the effect mentioned, may take place from a combination of the carbon of the manure with the potash of the ashes, which would separate the ammonia from its union with the carbon. Potash, however, greatly promotes the solubility of carbonaceous substances, and is highly beneficial from this action. At present we are inclined to think that wood ashes, mixed with strawy stable manure, at the rate of a bushel of the former to a cart-load of the latter, would be on the whole beneficial. But accurate experiments on this point are desirable.

Hops.—"F.," Wheeler, Steuben county, N. Y. Your best way to obtain a knowledge of the cultivation of hops, would be to go into some neighborhood where they are grown, and personally examine the whole process. The roots could be packed in boxes or barrels and sent to any part of the country. You will find an article on this subject in our volume for 1847, pp. 82, 83.

Budding on the Black Cherry.—R. H. We have seen the cultivated cherry, engrafted on the black, but it did not do well. We have heard of some attempts at budding on the black stock which did not succeed. If the union of the two were practicable, we cannot see that it could have any advantages over budding on the mazzard stock.

NEW PUBLICATIONS.

Harper's Magazine for November is before us. It is well sustained, and will do much in forming a taste for a higher literature than has heretofore been the burden of our leading monthlies. It is difficult to particularize articles, where all are pleasing and instructive. The biography of Napoleon is replete with interest, and shows in its true light his transcendant genius as a general, and his wonderful ability as a statesman, in combination with rare virtues. The "Editor's Table," "Easy Chair," and "Drawer," display a marked originality, to say nothing of the wit.

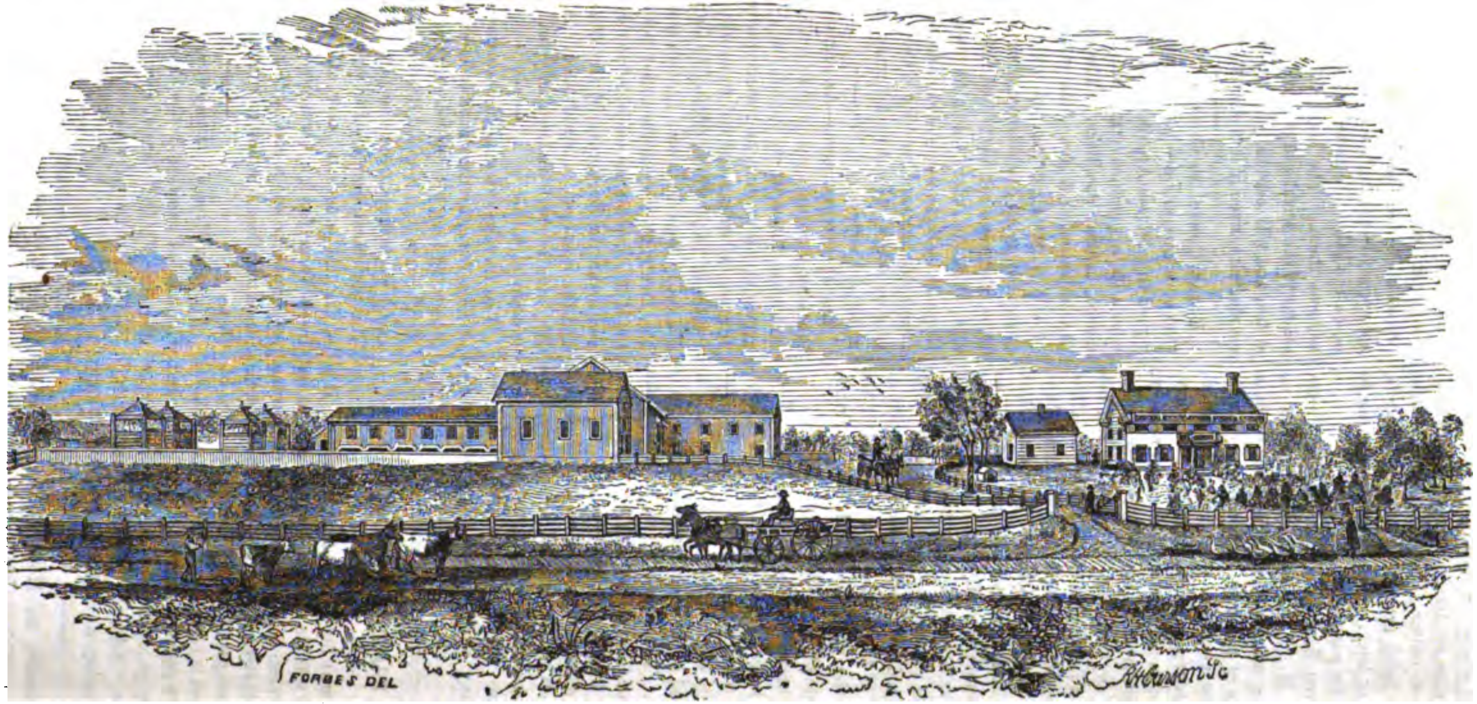
Glances at Europe, by Horace Greeley.—We are indebted to the publishers, De Witt & Davenport, New-York, for a copy of this work. Perhaps it is a sufficient commendation to say that the book has the original stamp of its author. It certainly forms an epoch in Journals of Travel. Most American travelers seem to have thrown up their peculiar views and in-bred sentiments, on the ocean passage, and straightway fall in love with some "gray old tower," or other age-honored structure; but Horace Greeley *Americanises* everything. A free, independent, radical thinker, as he is, he praises all he finds to admire, and censures what he cannot approve—appropriates all the good, and frankly exposes the bad—tells facts as they are, and truths as he believes them. The book will not fail to instruct the reader in the social and political aspect of the European states, and will especially please those who like an honest sincerity, even if it conflict with private opinion.

Rural Homes, by Gervase Wheeler. New-York, Charles Scribner.—This adds another, to books designed to cultivate Architectural Taste, and assist those who wish to combine neatness and elegance with convenience, in their dwellings. The author claims, as the distinctive, original idea of the work, "the embodiment of a fixed principle in rural architecture," capable of adaptation to all conditions and circumstances. The volume comprises models of buildings, means of warming and ventilation, plans for harmonising the dwelling with the surrounding scenery, and hints in the selection of furniture, &c., concluding with a theory of rural architecture as a fine art, and its influence on the mind, heart, and social virtues.

The Horticulturist.—Among other notices of publications, showing signs of better things in the literary and scientific world, we would not forget one, that has grown up under our own fostering care, The Horticulturist. Closely restricted to its own sphere, it has the "spice of life," which originality imparts to any production. The extensive horticultural information of Mr. Downing, his discriminating power, and easy, flowing style, give him an enviable rank in the editorial corps, and make the Horticulturist the *text-book* in rural art, and the *standard* in rural taste. A new volume (the 7th) commences with the new year. Price $3 a year—two copies for $5.

The International Magazine—published monthly at New-York, by Stringer & Townsend—leads off this month, with an extended description of the Fair of the N. Y. State Ag. Society, illustrated by several well executed engravings, from the pen of Horace Greeley. This periodical is enriched by original articles from some of the best American prose and poetical writers. Extracts from foreign literature—a record of important news at home and abroad, and notices of new and valuable publications. It has a wide and extending circulation.

Pioneer History of the Settlement of Phelps and Gorham's Purchase, is the title of an octavo volume of 620 pages, by O. Turner, Esq., whose "History of the Holland Purchase," we noticed a year or two since. This work embraces the history of the entire center of Western New-York, and shows the indefatigable efforts of the author in the collection of every thing tending to illustrate the trials, character and energy of the first settlers of the "Genesee Country." It is a most valuable contribution to the general history of the state, and will be read with lively interest by the numerous descendants of those whose history it delineates, and who are now scattered over our wide-spread country—for, fruitful as is the celebrated Genesee Valley, it has sent forth its thousands to aid in subduing the ever receding "far west." Published by Wm. Alling, Rochester



Farm Buildings of D. D. T. More, Middlebrook Farm, Watervliet.

Farm of D. D. T. More.

This farm, which received the second premium of the New-York State Agricultural Society in 1850, is situated in the town of Watervliet, on the Albany and Mohawk Plank Road, two miles from Albany. It has been in Mr. MORE's possession and occupancy for the last six years, and during that period has presented one of the most striking examples of successful and profitable improvement that we have ever known. Previous to Mr. M.'s purchase, it had been for fifty years subjected to an exhausting course, under the leases of various tenants—the annual rent of the whole farm being but one hundred dollars, and that deemed too large a sum by the tenant—as the whole amount of produce was only worth $400 to $500 a year. Mr. MORE, in fact, bought the place in opposition to the advice of all his friends, who deemed it impossible that the land could afford him and his family "a living." But notwithstanding the soil was so much reduced, that, in Mr M.'s language, almost the only crop he could raise at first was white beans, his clear judgment and practical knowledge of agriculture induced him to make the purchase, at $60 per acre, and the result has more than realized his anticipations. The benefit of his good management has been of no small value in the promotion of improvement in his neighborhood. His "good works" have stimulated others to "do likewise," and much of the land adjoining his, and which, at the commencement of his operations, was in a similar condition, has advanced in price more than 100 per cent., and is made to yield a bountiful return for good cultivation.

Mr. MORE has accomplished his results under many disadvantages. For a large portion of the time since he began, he has been in feeble health, and has been only able to exercise a general supervision of his affairs, without attempting bodily labor, but his constant vigilance and care has well verified the maxim, that "the *eye* of the master will do more work than his *hands*." Neither has he derived any benefit from the labor of his family. In his statement to the Society, he says—"My family consists of wife and five children, the oldest but fourteen years old, so that my children have been of little assistance to me—the balance of account being decidedly against them."

When Mr. MORE took possession of his farm, all the buildings on it were reckoned as not worth more than $100, and "the fences had all rotted down, or become nearly worthless." He sold the dwelling for $50, to be taken away, and the barn he pulled down. All the buildings and fences now on the premises have been put up by him. In making the purchase he says—"I paid all the money I had, or could raise, which left me more to pay as interest than the former occupant paid as rent. But notwithstanding I have since put up my buildings, fences, and all other improvements, I have paid the interest, and reduced the principal, besides this year's (1850) profits."

We take from the *Transactions* of the N. Y. State Ag. Society for 1850, the following, from Mr. MORE's answers to questions propounded to the competitors for the premiums on farms:

1. My farm consists of one hundred and eighty-five and a half acres of land. No waste or woodland.

2. Soil, a sandy loam; subsoil, principally a coarse sand; am not aware of any limestone existing on the farm; no stones worth mentioning.

3. I found the best mode of improving my land was by plowing under clover; the growth of the clover was much aided by a liberal application of plaster, say 250 lbs. per acre.

4. My experience is decidedly in favor of deep plowing—not less than eight inches, and often deeper.

7. Yellow and white pine, white and black oak, scattering hickory, poplar and sassafras trees, were the principal trees originally. Sorrel and couch grass were the principal weeds.

8. I find from my experience I derive the most benefit by applying manure as a top-dressing.[*] I use much of my manure on my rye crop, in the following manner: After the grain is harrowed in, I apply from twenty to twenty-five loads of manure, (double loads, say thirty bushels each,) spread evenly over the surface. I have never failed to get a good crop of rye. The grass seed is sure to take, and the growth is much aided by the manure; the clover being plowed in, leaves my land in excellent condition for a crop of corn. I manage my manure by heaping in the yard, turning it, and keeping it covered with earth, to prevent as much as possible the escape of the gases. I have no cellars for manure under my barn, but have cisterns for collecting the urine.

9. My means of making manure are from the keeping of about thirty head of cattle, and from four to six horses, and mixing in various ways, all the straw that my farm produces. I make in this way about three hundred loads of manure, and usually buy as much more.

10. I prefer to have my manure pretty well rotted. My usual mode of applying manure has been as follows: Plow under clover, plant corn, follow with potatoes, and then rye, with a top-dressing of manure, not so much for the benefit of the rye as for the clover, and future crops. I am satisfied that my land has improved rapidly from this mode, in fact at such a rate that I shall not be able to follow it, so far as the rye crop is concerned.

11. I am not aware of any way of increasing manure cheaper than by purchasing it, being so near to Albany, where it can be bought from twelve to thirty-seven cents per load.

12. I have used lime, guano, and plaster. Lime I have applied to a considerable extent, usually as a top-dressing. Have used plaster, principally upon clover, with much benefit. Guano I consider too dear for common use. Stable manure and lime I consider the cheapest, considering their effects.

13. I tilled this year one hundred and forty-four acres, as follows: ten acres of wheat, thirty-five acres of rye, twenty-seven acres of corn, thirty-five acres of buckwheat, twenty acres of potatoes, twelve acres of broom corn, one acre of sowed corn, two acres of melons, fifty rods of asparagus, and one and one-half acres of strawberries.

14. I have cultivated wheat more as an experiment than anything else, as for the last few years it has been almost a total failure in this section of the country. My manner was as follows: I sowed after potatoes, spring wheat of the Black Sea variety, about the 15th of April; harvested about the 4th of August, at the rate of six and a-half bushels per acre. In the cultivation of my rye crop, I sowed part of it after potatoes, and a part on a clover lay; sowed the last week in August and the first week in September, one a half bushels to the acre; harvested about the 15th of July; product seventeen and a half bushels per acre. The crop was much injured by a hail storm in the latter part of June, to the extent I

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[*] In reference to Mr. More's mode of applying manure, it should be remembered that he plows "not less than eight inches deep, and often deeper." Therefore in choosing between plowing in manure to this depth, or top-dressing, the latter is, perhaps, preferable, especially when, as in this case, the main object is to promote the growth of clover. Still, we cannot but regard it as probable, that if the manure was fairly covered with earth, say to the depth of two to four inches, its effects would be greater in the end than if it was left entirely on the surface. EDS.

think of eight or ten bushels per acre. I did not discover much difference between the manured potato ground, and the clover lay, which confirms my previous opinion, that a clover lay plowed under, is about equal to a dressing of manure.

I cultivated corn as follows: twenty-two acres on clover lay, part plowed in the fall and part in the spring. After the clover had got about ankle high, I plowed it deep, passed over with the roller, harrowed well, marked both ways three and a half feet apart, and planted from 4 to 6 seeds in a hill; planted the last days of May and first of June; as soon as I could see the rows I went through with the cultivator; in about a week after, went through with the cultivator again, followed with the hoe, making it perfectly clean, and thinning it to four stalks in the hill. I kept the cultivator stirring the ground as much as possible, till the corn was about three feet high, then went through with the shovel plow, and hilled moderately. As soon as the corn was glazed I cut it up by the ground, and set it up in small stooks. I consider stalks as the most valuable cured in this way. I planted part of the eight-rowed white, and part of the eight-rowed yellow. I found the yellow corn some ten days earliest, but the white yielded best; I did not keep it separate. The whole averaged fifty-six bushels per acre. Five acres of sweet corn I planted the first days of July; the ground was well manured by top-dressing, cultivated the same as the common; picked the 15th to 30th of October. It sold in the market principally, at 62½ cents per hundred ears, amounting to $257.33. The stalks are much more valuable than the other corn, as they contain a larger proportion of saccharine matter.

I sowed this year thirty acres of buckwheat; after mowing, I turned over a clover lay, and sowed between the 15th and 20th of July, about three pecks to the acre. Harvested about the 10th of October; produce eight hundred and thirty-one bushels, twenty-three and three-quarter bushels per acre. On fifteen acres I sowed rye with the buckwheat, which looks well, and bids fair to be a good crop.

I cultivated twelve acres of broom corn, on an island in the Hudson river. In consequence of the late spring freshet, I planted the first week in June, ground plowed deep, well harrowed, rolled and marked three feet apart, and planted with Campfield's Drill Barrow, hills eighteen inches apart, ten seeds in the hill; it was tended much the same as Indian corn, cut when the seed was in the milk, cleaned and cured in the shade, to keep the brush green. My usual crop is about seven hundred pounds per acre. This year, in consequence of having been twice overflowed, the crop is much injured, and will not yield more than four hundred and ten pounds per acre.

One acre of corn I sowed for fodder. Sowed the last of July, cut and fed to the cows through the month of October. I find it excellent for late green feed.

I cultivated two acres of melons; watermelons, citron melon, and preserve citron. Planted the first of June. After the land was put in good order, by deep plowing, I marked out the ground six feet apart each way, and put three shovels full of street manure in a hill. I planted at least twelve seed in a hill. Calculated about two-thirds to be lost by the bugs. The produce was very large, as the family consumed many, many were pilfered and given away, and sold over one hundred dollars worth.

Fifty rods of asparagus, I cultivated as follows: sowed the seed, transplanted the third year to the bed for cutting. I prepared the bed by plowing deep, and highly manured with well rotted manure; when the bed was thus prepared, I took a large plow, and struck a furrow about twelve inches deep, set my plants in the bottom of the furrow, about ten inches apart, cover, then struck the second eighteen inches apart from the first, and so on until all are set. Top dressed with well rotted barnyard manure and salt. My asparagus was of an extraordinary size and quality. Sold $69.66 worth at eleven cents per bunch, besides what was used in the family. I cannot tell how much fertilizing matter is taken from the soil to produce twenty bushels of wheat. I wish I could.

I have cultivated usually about an acre of strawberries, with success and profit. I have cleared over two hundred dollars in one year from one acre. My mode of cultivation is to take a clean piece of land in good condition, plow it very deep, harrow thoroughly, and spread evenly from two to three hundred bushels of leached ashes to an acre, mark the land in drills three feet apart, and insert the plants from eight to twelve inches apart, in the drills. I transplanted in April, or early in May. I obtained no fruit the first year, of consequence. I cultivate between the rows, as long as I can get through with the cultivator, and then let the vines run together, they will cover the ground entirely by the first of August. I do nothing with them again until the next spring, when I take a double team and heavy harrow, and go over the beds thoroughly, until the plants are sufficiently thinned; this loosens the ground and takes out all the weak plants. If the ground does not appear to be sufficiently rich, I apply another dressing of leached ashes; after this is done, the ground is laid off in beds, about five feet apart, and nothing more is done till the fruit comes to maturity. After the fruit is gathered, the beds are cleared of weeds, and left till the next spring. The second year I repeated the above method.

One great benefit I find in using ashes as a manure, is that it brings no weeds. I consider strawberries one of my best crops. I failed, however, entirely in my crop this year. I had one and a half acres of the pine apple variety, a variety much recommended for its prolific crops, and the superior quality of its fruit; my beds never looked so well as they did last spring, blossomed finely, and bid fair for an abundant crop, but after blossoming no berry appeared, and I had therefore a most splendid failure. I had not a full grown, perfect berry in the whole field, they were all pistillate plants. I have been setting rows of the Iowa variety through them, with the hope of better success the next year.

18. I usually sow clover and timothy seed on winter crops. Timothy in August and September, clover in April. Four quarts of timothy, and usually twelve quarts of clover to an acre. My land being upland, I prefer timothy and clover for pasture.

19. I mowed thirty-two acres this year, and averaged about one and a half tons per acre. I cut clover when the heads begin to brown, and timothy when in full blossom. Cure as much in the swath and cock as possible. To preserve the color and keep the leaves from shelling, salt in the mow, at the rate of four quarts to the load.

24. I was in the milk dairy business till last October, when I sold out. For the last two years previously I kept on an average about thirty cows. Since then seven. Nineteen I pasture for others. I keep for use on the farm, four mules, one horse, and one yoke of cattle. My cows are of the native breed.

25. I have made no experiment in the breeding or use of cattle. Have used for farm work, horses, mules and oxen I prefer mules for general farm purposes. Oxen the second best. I consider two mules as good, and will do as much work as three horses. I can keep three mules as cheap as two horses, besides saving much in shoeing, and costing nothing for farriery; they will work when very old, and I could not be induced to do without them.

26. I stable my cattle, and cut my feed principally and give them as much as they will eat. Water in the stable.

34. The depredations of the common peach worm I prevent by digging round the trees twice a year, and destroying them. This is the only troublesome insect I have had so far, except the common caterpillar, which is easily got rid of.

35. I keep the ground cultivated for two or three feet round the trees, and keep the ground covered with compost, when the orchard is in sod, which is not more than one year in four. I endeavor to keep my orchard well manured. I wash my trees with a preparation of lime and oil of soap, which keeps the bark smooth and thrifty.

37. I have a story and a half house, 24 by 36 feet, with kitchen back, 18 by 30 feet, 12 feet taken off for store room. The upper part of my main building is devoted entirely to sleeping rooms.

My main barn is 30 by 80 feet, standing upon a side-hill of gentle slope, end towards the hill; under the end where the ground is lowest, I take off twenty feet for a horse stable, making room for seven head of horses; the next twenty feet is a root cellar; the remaining forty feet is a cow stable with cisterns underneath for catching all the water that falls on the building. My water cistern occupies about twenty-four feet under this stable, and will hold something like two hundred hogsheads; the other sixteen feet is occupied by a cistern for collecting the urine from the stables, the floor being caulked and pitched, with a trough behind the cattle to conduct their urine to the cistern.

My manner of building the cisterns is this. I dig out the earth, of the requisite shape and dimensions, take cement and coarse sand of equal parts, mixed with water, and spread evenly about half an inch in thickness all round the sides, and on the bottom, and cover with planks, with earth over them. A cistern of the capacity of one hundred hogsheads can thus be built, with pump, complete, for less than twenty-five dollars.

The cow stable is arranged to accommodate twenty-four head of cattle in two rows, with an alley way between. The sides are filled in with brick. One part of the barn, over the horse stable, I use for hay, and the remainder of the space, over my thrashing floor and cow stable, for grain and fodder. Attached to my barn I have on the north a wagon house and tool shoop, 18 by 50 feet, with room overhead for hay and grain, opening into the main barn. To the south of the main barn, attached in the same way, is a building 18 by 100 feet; fifty feet is occupied as a cow stable, the remainder is open shed, with room overhead same as north wing. To the south of the southern shed I have my hen house, 12 by 18 feet, with large windows on the south side, to admit light and warmth. East and south of this shed is my barn-yard, protected from the north and west winds. The yard contains about three quarters of an acre, divided into two parts, the front one for most common use; in the rear one I have four barracks for coarse feed, where I fodder in the middle of the day in pleasant weather. East of my barn, some forty feet, I have a wagon house, 28 by 36 feet, with corn house and granary overhead. About one hundred and fifty feet in the rear of my house, I have a shop 16 by 24 feet, story and a half, with sleeping rooms overhead.

38. I have but one kind of fence, post and board, or plank, principally chestnut posts, and inch and a quarter culled spruce plank, four planks high, of which I have sixteen hundred and eight rods, costing about eighty cents per rod. I have no wire fence, and have seen none that I admire. My fences are all in good condition, all having been built within the last five years. As an evidence of the good quality of my fence, I have not received a shilling's damage to my crops for the last year, from either my own or neighbors' cattle.

39. I measure my grain, seed, and potatoes; weigh my beef, pork, and hay, and keep an account of all.

40. I keep a general farm account, of all my sales, receipts and expenditures; and can strike a balance at the end of the year, and thus ascertain my profits or losses.

ACCOUNT OF EXPENSES OF FARM.

407 days labor at 50 cents,	$203 50
Yearly and monthly labor,	665 00
One girl one year,	52 00
" four months,	16 00
500 bushels of oats at 41 cents,	205 00
Blacksmith's bill,	97 81
Grocery, shoe, and dry goods bill,	357 90
12 bushels grass seed at $2 25,	39 00
10 do clover seed at $4 50,	45 00
12 do seed wheat at $1.25,	15 00
Seed corn and garden seeds,	10 00
26 bushels seed buckwheat at 62½ cents,	16 25
State and school taxes,	31 22
Insurance in Mutual Ins. Co , average about,	4 50
Depreciation of farming tools,	100 00
Two tons of plaster,	10 00
1,000 bushels of lime, at 4 cents,	40 00
Grains for cows,	119 17
Hay bought in April last,	75 00
Total expenses for current year,	$2,174 35

The above includes all farm and family expenses, with the exception of doctor's bills and church expenses.

ACCOUNT OF RECEIPTS OF FARM.

363 bunches asparagus at 11 cents,		$69 66
Received from produce of 5 acres sweet corn,		257 33
610 bushels rye at 60 cents,		410 90
Melons, pumpkins, and citron melons sold,		148 00
831 bushels buckwheat at 44 cents,		365 44
Raspberries sold,		31 25
Potatoes, (including those unsold,)		100 00
1,240 bushels of corn at 65 cents,		806 00
Milk sold from an averarge of 30 cows, 9 months,		1,629 81
Sixty-four bushels, 35 lbs. wheat,		64 62
Five loads of hay,		40 00
Five loads of straw,		5 00
Broom brush, 4,020 lbs.,		250 00
Pigs sold,		40 00
Surplus of straw,		100 00
Surplus of corn stalks, part sold,		100 00
Twelve tons of clover hay at $6,		72 00
Chickens and eggs sold,		40 00
140 lbs. butter at 18¾ cents,		26 25
Peaches sold,		10 00
Pie plant,		11 25
Twenty-five calves at $1 each,		25 00
Received for pasturage,		18 50
Received for work done by teams and men during the State Fair,	$117 30	
Received for labor done for S. Van Rensselaer,	114 00	
		231 50
Total receipts for current year,		$4,852 51
Less expenses per account,		2,174 35
Net profits current year,		$2,678 16

Mr. MORE has furnished us with a brief summary of the products of his farm for the present year. It is necessarily imperfect, from the fact that the yield of only a portion of his crops had been ascertained, and but few of them marketed, when the statement was made—20th of October.

Barley, 38 acres, produced 895 bushels, weighing 48 lbs. per bushel—sold in the aggregate, $671.25, from which, deduct the total expense and charges incident to the crop, $262.75, leaves a profit of $408.50 besides the straw, which is valued at half the price per ton as hay. Asparagus, 50 square rods—sales $71.70—charges on same, $20—leaving as profit, $50.70. Potatoes, 12 acres—from which 602 bushels have been sold, at 50 cents per bushel, $801—400 bushels on hand, $200—aggregate value $501; total cost of the crop $205—leaving as profit $296. Indian corn, 14 acres—aggregate produce estimated at 560 bushels. Buckwheat eight acres—sold from the same to the amount of $62.50, at 50 cents per bushel. Hay, from 30 acres, 50 tons. Kept on the farm 17 cows—sold butter to the amount of $300. Kept 40 pigs, worth $5 each.

Since last year, Mr. MORE has increased the number of his apple trees from 1000 to 1800, and has now set to apple, peach, pear, plum, and quince trees, 52 acres. The spaces between the small trees, are set to raspberries, currants, strawberries, &c. The raspberries and currants, except such as were used in the family while fresh, were made into preserves and jellies—several hundred pounds of which are on hand unsold.

Farming in Pennsylvania.

In the early part of October, we paid a visit to Pennsylvania, for the purpose of being present at some of the agricultural exhibitions, and learning something of the agriculture of a part of that state. The first point of destination was Newtown, and after attending the fair of the Bucks County Agricultural Society, at that place, we took the opportunity of examining some of the farms in that neighborhood.

Bucks county has long enjoyed a great celebrity as a farming district, and if that portion of the county which we saw is a fair representation of the whole, its reputation is not undeserved. It may be pronounced an interesting section. Its surface, though comparatively level, is sufficiently diversified to afford a pleasant aspect, numerous streams of excellent water, and roads which are easy to be traveled over. The proportion of wood, and its situation with respect to the cleared land, is such as imparts an agreeable variety to the landscape, and with the general neat appearance of the farms, and large and substantial stone dwellings and barns, few sections of the country present more attractions in respect to rural enjoyment and comfort.

From Mr. ADRIAN CORNELL, Jr., we obtained some facts in regard to the agriculture of the neighborhood, and especially in regard to the agriculture and products of his own farm, which we think will interest and benefit our readers. His residence is about three miles from Newtown, and about twenty miles north from Philadelphia. The place has been occupied by the ancestors of Mr. C. for several generations; a portion of the dwelling house was built by his great grandfather, in 1745, and the remaining portion by his grandfather, in 1762. It was a well known mansion during the Revolution, and while the British army was encamped in the vicinity, was more than once subjected to search, from being supposed to shelter "rebel" officers.

The home farm consists of 144 acres, exclusive of wood-land. It is devoted to mixed husbandry, as are most other farms in this section, a system which is generally found most profitable where circumstances are adapted to it, and especial so, where, as in this case, the products are regularly marketed from week to week.

THE SOIL is of very uniform character over the whole farm, and varies but little over a large extent of country from the Delaware river westwardly. The surface is mostly a fine, friable loam, underlaid, generally, with a grayish yellow clay, (probably impregnated with iron,) resting at various depths on sandstone strata. It is an excellent soil as regards mechanical relations; being easily tilled, not liable to pack closely under the effect of rains, nor to bake under the effect of drouth. This constitution renders the crops comparatively independent of the weather, as to wetness or dryness, and with good cultivation insures a certain return. We have before mentioned that a very protracted drouth had been experienced here the past season—scarcely rain enough to soak the ground to the depth of two inches, having fallen from June to the 25th of October; and yet on Mr. CORNELL's farm, and some others which we visited, the crops were nearly all good. It should be understood, however, that there appears to be an inexhaustible source of water through this district, at no very great depth in the earth, as is seen in numerous unfailing rivulets, and the abundant supply afforded by wells.

COURSE OF CROPPING.—Mr. CORNELL's farm is divided into lots of 12 to 16 acres, each of which (except what is devoted to orcharding) is in regular rotation, brought into the same crop. This rotation is the following: first year Indian corn, second year oats, third year wheat, fourth, fifth and sixth years clover and timothy—mowed two seasons and pastured one.

The sod for corn is usually plowed in November and December. From five to eight two-horse wagon loads of manure are spread before plowing. The land is then plowed to the depth of three and a half to four inches. This will appear to many persons as much too shallow. Mr. C. defends his practice by the argument that the sod and the manure should be kept where the crop will derive most benefit from them, that is, as near the surface as practicable, without suffering loss from exhalation. But the suggestion may be worthy consideration, whether a deeper tillage, which could be effected by a sub-soil plow without burying any deeper the manure or surface soil, would not be beneficial. In spring, about the last week in April, the ground is thoroughly worked over with a large cultivator, which brings the soil into excellent condition for planting. The corn is planted the first week in May. Furrows are made four feet apart for the rows, and the seed is dropped in them with a hand drill. The drill does not cover the seed, and to do this a harrow is drawn, with the teeth upward, in such a way as to fill the furrows. When the plants are fairly started, they are thinned so as to leave one every nine inches. The crop is gone over once with the hand hoe; the rest of the work is done with the cultivator. Strict attention is paid to the thorough eradication of weeds. For the twelve years Mr. C. has managed the farm, he has made it a rule that no foul plants should be allowed to go to seed, and the effect has been to almost wholly prevent their appearance. In a cornfield of sixteen acres, scarcely a weed could be seen, and over the whole farm nothing of the kind obstructed the growth of crops. The corn is cut up and shocked, as soon as it is ripe enough to cure. The yield averages sixty bushels per acre, measured as husked in the field. The cost of cultivation is 20 cents per bushel. The price it brings in market is usually 62½ cents per bushel. The fodder produced on an acre, yielding as above stated, is reckoned worth $6. The fodder is all fed out in the barn-yard, in order that the waste parts may be converted into manure.

Oats follow corn—sown as early in spring as the soil will admit of plowing, three bushels seed, broadcast, to the acre. No manure is given to this crop. The average yield is 60 bushels per acre. The average price which this grain brings in market, is 40 cents per bushel.

Wheat succeeds oats. The preparation consists in first spreading on the stubble, fifteen two-horse wagon loads of manure to the acre, which is immediately plowed in, three and a-half to four inches deep, harrowed, and left to rot till about the middle of September, when the ground is cross-plowed, about five inches deep. The soil is then reduced to a fine tilth by the harrow and roller, and the wheat sown by a drill, two and a-half bushels to the acre. The yield for the last ten years has averaged over 25 bushels per acre—has sometimes gone as high as 30 bushels per acre. The average price it has brought in market for the last ten years, is 110 cents per bushel. The kind raised by Mr. C., and almost the only kind raised in this part of the country, is the Mediterranean. It succeeds better against both the Hessian-fly and wheat-midge, and is also less subject to blight. The grain has improved very much in quality, since it was first introduced, but in acquiring this quality, it has lost something of the peculiar habit by which it was enabled to resist the Hessian-fly. The straw was formerly very stiff, and the husk or sheath which enveloped the stem, adhered so closely that the insect could not obtain a lodgment for itself. The subject is agitated of making a new importation of this variety of wheat, for the object of securing the property for which it was at first specially valuable.

Clover and timothy seed are sown on the wheat at the close of winter, on a light snow, or early in spring, while the ground is very soft. Mr. C. likes the mode of putting in wheat by the drill—thinks the crop is usually better so than broadcast—but it has an objection in reference to the clover and grass, which is regarded as of some importance. The drill leaves the surface somewhat in ridges and furrows; the clover and grass-seed, though sown broadcast, tends to collect in the furrows, which causes it to grow in rows like the wheat, leaving the field imperfectly swarded over. The yield of hay is about two tons per acre. The whole amount of hay cut on the farm annually, is about 80 tons. Its average market value is $12 per ton.

FRUIT.—Mr. CORNELL has about twelve acres devoted to apple and pear trees—three or four acres of which are set to an apple orchard, as yet too young to bear much. In general these fruits are an important item of farm produce, but this year the trees bear but very little—not enough apples being obtained for the home demand.

Live Stock.—There are kept on the farm sixteen cows, two heifers, one bull, five horses, eight Leicester sheep, twelve swine, besides young pigs. The cows are chiefly a cross of the Short-horn and common stock; a few have a dash of the Devon. They are kept for making butter, not for breeding stock for sale. They are fed in winter in the barn, night and morning, on hay which is a mixture of clover and timothy, with what corn-fodder they are inclined to eat in the yard, while they are out. Each cow is also fed every day, from the time they come off grass till after their calves are fatted, with eight quarts of the following mixture: Two quarts corn-meal, three quarts shorts, one quart oil-cake meal. After the calves are taken off, and the milk is devoted to butter, the oil-cake is discontinued, from an idea that it injures the quality of the butter.

The cows calve the latter part of January or first of February. The main object in having them "come in" at this time, is that the calves may be fatted and sent off while veal will command a good price, and also leave the best of the season to be availed of for making and selling butter. The calves suck till they are six weeks old, and are then sold in market at four and three-fourths to five cents per pound, live weight. They bring from eight to ten dollars each. The cows being well fed and sheltered in a warm barn at night, and in all inclement weather, and allowed the liberty of the yard for exercise and air in pleasant days, they give a large quantity of milk, make the calves fat, and afford a large quantity of butter after the calves are taken away. The sixteen cows gave an average of 180 pounds of butter each, in 1850, besides fatting their calves.

Mr. C.'s ideas in regard to the proper way of keeping cows, deserve to be mentioned. He holds that they should have an abundance of good food, and be kept in good order. If they get *fat*, even, as they frequently do towards the time when they go dry, he considers it no disadvantage, and refuses to sell his best cows to the butcher, though offered a high price. He says the fat is not lost, that it is only stored up in the system, and after the cows calve, it goes into the milk, and either fats the calves, or forms butter. We think this is correct reasoning. Great loss is sustained in many instances by cows being very poor when turned to grass. When in this condition, it takes considerable time, and a large amount of food, to fill up the wasted tissues of the body, and give the animal any surplus to spare.

Butter Making.—As already remarked, butter is an article of importance on Mr. Cornell's farm, and it is so on most farms in this section. It is made with great care, and sent to Philadelphia every week, where it brings an average of twenty-five cents per pound. We made very particular inquiries in regard to the kind of room which was preferred to set milk in for this purpose, and found that spring-houses were considered best. We are satisfied this opinion is well founded. An unfavorable idea in regard to such houses has been entertained; but the objections have arisen from the want of proper attention to certain requisites, the most important of which is purity of air. The great advantage of spring-houses is the security of a proper temperature—50 to 55 degrees—by which the milk may be kept from souring till all the cream rises. But with this temperature it is essential that there should be a pretty free circulation of air, charged as little as practicable with dampness. This is found necessary for the perfect separation of the cream from the milk, and for the making of the best butter. Without a spring-house. it is difficult to obtain at all times the required temperature. Farmers who cannot avail themselves of a good spring, often used what is called a vault for setting milk. This is an under-ground room, the walls, roof, and floor of which are of stone. A dry and shaded situation is selected for the site. The dimensions are usually such as to admit of the milk being set on the floor, as that imparts a coolness to objects coming in contact with it. The top, which is commonly arched, should be high, (not less than nine or ten feet.) to promote ventilation, which is effected by an aperture in connection with the door, and a chimney or pipe at the opposite end of the vault, passing through the roof to the surface of the ground. It has formerly been the practise to build these vaults in connection with wells—that is, the vault is open to the well on one side. Mr. Cornell has two, one of which is of the latter kind, but its use has been latterly discontinued, and the other used in its stead. The advantage of a cooler temperature by a connection with the well, is over-balanced by the dampness, and this cannot be avoided with the imperfect ventilation which belongs to an underground apartment.

Mr. James C. Cornell, (a brother of Mr. A. C. jr., and whose farm adjoins that of the latter,) has a spring-house, the best, perhaps, we have ever seen, and never have we seen any place of the kind which indicated better management. The spring runs into the house at one end, and the water flows over the floor, which is of bricks, the depth being governed by a gate through which the water has an outlet. In warm weather the pans stand on the floor, and the water is raised round them to the height of two to three inches. The pots which hold the cream are also set in the water in warm weather. It is kept constantly running, and it is so cold that there is no difficulty in keeping the temperature of the room low enough for the cream to rise well. The house is in the shade of large trees, but the surrounding ground is solid and dry. There are windows in each side of the milk-room, near the roof, provided with shutters, by which the quantity of light is regulated, and wire netting to keep out flies. When the weather is too cool, or a higher temperature than that of the open atmosphere is wanted, the milk is set on shelves, and the room is warmed by a stove. This is done early in the spring and late in the fall.

The strictest neatness and care are practiced throughout the whole process of managing the milk, cream and butter. The milk is first strained into a large vat, which does not stand in the milk-room, and when considerably cooled is drawn off into the pans, which are set in their appropriate place. The cream is taken off before the milk sours. Mr. J. C. Cornell is confident that nothing is gained in quantity by allowing the milk to sour before it is skimmed, and that the souring is decidedly injurious to the quality of the butter. The particular crisis observed in taking off the cream is this: when the cream has all risen, it readily separates from the milk—the particles of cream adhering together, merely floating on the watery fluid below. A person can soon learn by close observation when the proper time has arrived. Mr. C. states that he has noticed when milk was permitted to sour before it was skimmed, that the acid of the milk appeared to decompose the cream, which was gradually made thinner—actually wasted away.

The cream is churned while perfectly sweet. A barrel churn is the kind used. It is worked by a horse, with a small lever-power. The churn is placed in an open room at one end of the dairy, a belt connecting with the power. When the butter is taken from the churn, it is worked, salted and set in the dairy for a day, when it is again worked over, and put up in pound lumps for market. Mr. J. C. C. is not in favor of using water for working butter, believing that water injures the flavor of the butter, and operates against its keeping. It is worked on a table with a brake. The form of brake found to operate best, is three inches wide and an inch and a half thick, with square corners. This is better than a round or oval form, as the operator can keep the butter better together, and press every part more equally. In moulding it into lumps, a small shallow scoop and spatula, both of wood, are used—the hand not being brought in contact with the butter. The Ashton salt is the kind used, a little less than an ounce to the pound of butter. Neat tubs, holding ten pounds each, are used for conveying the butter to market. In warm weather they are packed in boxes with ice. The butter is all sold to regular customers, who engage a given quantity for each week. We scarcely need to say, that the quality of the butter is unexceptionably fine.

Poultry.—Considerable attention is paid through this section to raising chickens and turkeys for market. A variety of fowls has long been bred here which has been so noted as to receive the name of "Bucks county breed." It is not easy to obtain an authentic account of their introduction; but it is evident that they belong to the family known as Malay, Chittagong, Shanghae, &c. The stock has however been much improved in some instances, and is not unfrequently found of much better shape, better quality of flesh, and even greater weight than most of the newly-imported fowls of the same tribe. Mr. **Adrian Cornell**, Jr., has kept quite a large stock of poultry for several years. He kept last winter, seventy hens and seven cocks, and this is about his average number. He has several stocks which he breeds by themselves. The old Bucks county stock, we were assured by the elder Mr. **Cornell**, who is upwards of seventy years of age, has been kept, unmixed, on this farm, for more than fifty years. These fowls, whatever some writers may say as to their being "mongrels, comparatively worthless," breed with more uniformity, as to shape, size, and color, than any of the large Asiatic fowls that we have seen, imported within the last ten years! Mr. C. raises them every year. They are usually short-legged, broad-breasted, rather small boned for their weight, and give a good quality of flesh. But the stock to which Mr. C. gives the preference, eggs and flesh considered, was imported from China in 1842. They are now mostly black—having been bred with a view to obtain that color for the eight years Mr. C. has had them. He has paid particular attention in the selection of these for breeding, to the proper shape, and has improved the stock much in this respect. They are large—the hens frequently weighing eight and the cocks ten pounds each. They are greatly disposed to fatten, and on this account sometimes attain heavier weights than mentioned. Mr. C. selected two hens from his flock last spring, to be sent to a person in England, who wished to obtain the best specimens of American fowls, that weighed a fraction over ten pounds each. Mr. C. has also the Jersey Blues, and specimes of several of the late importations—'Shanghaes," "Cochin-Chinas," &c. For the stocks which he wishes to breed by themselves, Mr. C. has separate yards. In February, the requisite number of the best fowls of each stock is selected, and put in their respective "walks" The eggs laid by the selected fowls are hatched by other hens, which run at large, or are kept in different places. The chickens are hatched in April and May. The fowls are only kept in separate yards about three months. The rest of the year they all run together uncontrolled. Towards the latter part of the time they are confined in yards; they sometimes get the habit of pulling out and eating each other's feathers. Mr. C. thinks this is caused wholly by the fowls being discontented and worn down by confinement.

Mr. **Cornell** began the business with the object of selling eggs and chickens in the market, but of late years has made sales of breeding stock to good advantage. Chickens usually sell in Philadelphia, dressed, nine cents per pound, and eggs at fourteen cents a dozen. He caponises more or less fowls every year. **Samuel Reed**, of Joabstown, N. J., makes a business of doing this work. He goes through a large extent of country, perhaps twice in a season, and operates on all the fowls that are brought to him, charging five cents each. He sends word when he is coming, and the fowls are shut up and kept without food for a day. He has castrated 275 in a day, and castrates from 12,000 to 15,000 in a year. Not more than one in a hundred die from the operation. Last year Mr. **Cornell** had forty-eight chickens and six turkeys caponised by him in one day, day, and lost but one. The age preferred for doing this, is three to four months, or when the feathers are well set. Capons are usually killed in February, when about ten months old. They are made very fat by full feeding for a mouth before they are killed, and weigh, dressed, from sixteen to twenty-two pounds per pair. Mr. C. has had a pair weigh *thirty-two* pounds, dressed, at fifteen months old, and he sold them at seventeen cents per pound. The usual price is about twelve cents per pound.

Mr. A. **Cornell**, Jr., keeps but few turkeys; his brother (Mr. J. C. C.) had about 100, and he remarked that he thought they saved him a $100 worth of grass this year, by killing grass-hoppers, which have been very numerous. The turkeys were worth a dollar a piece for market.

The income from Mr. A. C., Jr.'s poultry for the last two years has been as follows: 1849 sales of poultry and eggs $211.85—used in the family to the amount of $88.15—equal to $250; 1850, sales, $131.39—used in family and otherwise disposed of, $68.61—equal to $200.

Labor.—Mr. A. **Cornell**, Jr., employs two men on his farm the year round; one of them, as foreman, receives $150 a year, and his board, the other $110 a year and board. The other hired labor on the farm amounts on the average to about $30 a year. The hired female labor in the house costs $75 a year besides board. Mr. C. superintends the farm operations. It will not be amiss to say, in order to give an idea of the labor actually employed on the farm, that Mr. C. has but one child, a son, whose time is spent at school. His taxes amount to $100 a year. The following is a copy of his memorandum of sales for 1850:

Butter and calves,	$628 96
Hay,	261 87
Fruit,	253 60
Wheat,	133 65
Oats,	136 88
Poultry,	131 39
Pork,	64 52
Wool and lambs,	40 00
Grass-seed,	20 00
	$1,735 57

Some remarks in regard to farm buildings, fences, and the management of manures, are deferred to another occasion.

Chinch-bug.

L. **Tucker**, Esq.—A friend has kindly lent to me the October number of "The Cultivator," containing an article by Dr. **Asa Fitch**, on wheat-insects. The "*bugs upon growing wheat*," noticed by Dr. **Fitch**, are no other than young *chinch-bugs*, insects that have long been known in the Southern and Western States for their depredations on growing wheat, Indian corn, and other grains. They are mentioned in the eleventh volume of Arthur Young's "Annals of Agriculture," published about 1788, from which work Messrs. Kirby and Spence probably compiled the following account of them in the first volume of their "Introduction to Entomology:" "America suffers in its wheat and maize from the attack of an insect, which, for what reason I know not, is called the chintz-bug fly. It appears to be apterous, and is said in scent and color to resemble the bed-bug. They travel in immense columns from field to field, like locusts destroying everything as they proceed; but their injuries are confined to the states south of the 40th degree of north latitude." "From this account," add Kirby and Spence, "the depredator here noticed should belong to the tribe of *Geocorisx*, Latr.; but it seems very difficult to conceive how an insect that lives by suction, and has no mandibles, could destroy these *plants* so totally." I have ascertained, from an examination of living specimens, that the chinch-bug is the *Lygxus Cucopterus*, described by Mr. Say, in Dec., 1831, in a little pamphlet on the "Heteropterous Hemiptera of North America." It is a mistake that these insects are confined to the States south of the 40th degree; for I have been favored with them by Professor **Lathrop**, of Beloit College, Wisconsin, and by Dr. L. **Baron**, of Geneva, Illinois. The latter gentleman had no difficulty in obtaining a sufficient number without going out of his own garden. A very good account of them, with an enlarged figure, will be found in the "Prairie Farmer" for December, 1845. In the same publication, for September 1850, may be seen an excellent description of this insect by Dr. LeBaron, who, not being aware that it had been previously named by Mr. Say, called it *Rhyparochromus devastator*. The eggs of this insect are laid in the ground, in which the young have been found in great abundance, at the depth of an inch or more. They make their appearance on wheat about the middle of June, and may be seen in great numbers, and in various stages of growth, during the whole summer. Some of them continue alive during the winter in their places of concealment. Other particulars concerning these insects are given in the Prairie Farmer. Yours, resp'y, T. W. Harris. *Cambridge, Mass., Oct.* 81.

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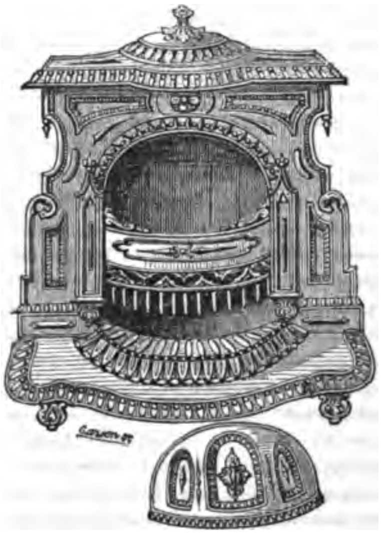
Heating Apparatus for Dwellings.

The substitution of stoves for open fire-places, has effected a great saving of fuel, and in a pecuniary view is an important improvement; but it is more than probable that in our efforts to secure this advantage in the greatest degree, an injurious sacrifice of health has been in many cases sustained. A serious objection to close stoves is, that they tend to prevent the renewal of the air of the room, and give off more or less noxious fumes. The injury in the latter particular of course, depends on the nature of the fuel employed. Anthracite and bituminous coals often contain sulphur, and sometimes arsenic, and when burned in stoves, without free draught, evolve gases which contaminate the air. Dr. Ure speaks of such stoves as "pseudo-economical," and says, "There is no mode in which the health and life of a person can be placed in more insidious jeopardy, than by sitting in a room with its chimney closed up, with such a choke-damp-vomiting stove." Of late, attention has been directed to obviating the objections to close stoves, without incurring a large loss on the score of economy. Considerable success has in several instances been attained in this respect, but so far as the writer is acquainted, the object has been most perfectly accomplished by the "Franklin Coal-Burner." It posseses the advantages of the Franklin-Fire-Place or open grate, with the additional advantage that it may be set in any part of the room, and connected with the chimney by pipe. It is neat and tasteful in design, and superior in respect to finish and quality of casting,—and affords the cheerful light of an open fire, with sufficient ventilation for health, making, at the same time, but a comparatively small consumption of fuel. We have tested it for anthracite coal, with which it operates in the most satisfactory manner. It is equally well adapted to burning bituminous coal. It was introduced here, and is made by Messrs. Jagger, Treadwell & Perry.



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Exotic Vegetables.—The Tea Plant.

It would seem to have been intended by nature that all vegetables should not do equally well in all climates and countries, and that some should do better in foreign countries than in their own. There is nothing better known in medicine, than that certain medicinal plants are active only when grown in certain countries. Rhubarb for example grows and thrives in this country with vigor, and does excellently well as a *culinary* vegetable; but as a medicine it is almost worthless. It must be grown in Turkey, or some part of Asia, to be a good medicine. The same is the case with numerous other plants. Digitalis, for example, grown here, is worthless, and so is Colchicum, while the roadsides and meadows of England in the same latitude afford them in all their excellence The Irish potato produces a better article of food anywhere else than in its native country. The highly glutinous white wheat of Maryland, when grown in the Genesee country loses a large portion of its gluten. Now why is all this? It seems to be a result of the all-wise providence of nature, the object of which is to keep up commercial intercourse with all parts of the world. If all plants would do as well in all parts of the world, then each portion of the world would have no occasion to import from other portions, and thus the population of each portion would become stagnant and inert. As it is, the teas of China induce us to send something that we produce there to pay for teas. So with all other products. I do not believe that tea will ever be cultivated in this country. Experiments have been tried with it for forty years. The plants can be cultivated successfully, but the tea produced from them has not the flavor of China tea. And it seems to me almost a pity that we should succeed in cultivating tea, for if we should a very large inducement for intercourse with China would be annihilated, and thus *her* civilization be retarded. England will never succeed in cultivating cotton in her East India possessions. She must purchase cotton from us. Because the varied productions of the earth, each in its locality, are necessary to keep up the intercourse of the various populations. for the advancement of the welfare of the whole. S.

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To Cleanse Jars,—fill them with rather hot water, and stir in a spoonful or so of pearlash (or caustic potash is better) pouring off, and repeating if necessary. The adhering contents will be immediately disengaged. In extreme cases, let the water and pearlash stand a few hours. Rinse the jar with cold water. Vials and other vessels are easily washed this way.

NOTES FOR THE MONTH.

To our Agents and Correspondents.

Having arrived at the end of another volume, we renew the expression of our obligation to all who have contributed, by their efforts, to the circulation of The Cultivator the present year, and most respectfully solicit their influence in behalf of our next volume. We are dependant upon you, gentlemen, for our circulation. The annual subscription is so small, that we are compelled to adhere to our rule of advance payments, and consequently all papers are discontinued at the end of the year. Whether our subscribers renew their subscriptions or not, depends, in a great measure, upon the fact of their being called on to do it, by some local agent, as no travelling agents can be employed on a paper published at so low a price. We therefore earnestly solicit your continued efforts, and hope you may all feel sufficient interest in the progress of Agricultural Improvement, to induce you to make the effort necessary to make your lists at least as large, if not larger, than the present year.

To a large number of post-offices, we send only to a single subscriber. If that subscriber would himself act as agent, or induce his Postmaster to get up a club, he would very greatly oblige us, as well as benefit his neighbors, whom he should be instrumental in inducing to read The Cultivator. It will be seen that we have added several prizes to our Premium List, and we trust there will be a spirited competition. It will be noticed also, that the Premiums are to be paid in Cash, Silver Plate, or Agricultural Books or Implements, at the option of the agent

Prospectuses are sent to all our Agents, and we shall be glad to send Prospectuses and specimen numbers, to all who may be disposed to act as agents.

To all Correspondents who have contributed to our pages during the current year, we tender our hearty thanks. They have benefitted all our readers, and the consciousness of the good they have thus done, will, we trust, stimulate them to continue their contributions. We have, however, hundreds of readers, who have enjoyed all the benefit of the labors of others, without contributing at all to the fund of information brought together in our pages. Would that we could convince them of their duty to contribute their share of knowledge to the common fund. We should be glad to have every one of our readers furnish us with rough notes of the results of their experience in the various branches of rural affairs. No one need refuse because he is not accustomed to write for the press, as we shall cheerfully make all the corrections necessary.

☞ Our Horticultural Department has been unavoidably crowded out this month. We will make amends for it hereafter.

☞ Several communications are necessarily laid over, which will have a place in our next volume.

South Down Sheep.—Those who wish to purchase this breed of sheep, are referred to the advertisement of Mr. Rotch, whose sheep, it is not too much to say, are fully equal to any in the country.

Premiums to Agents of the Cultivator.

As an inducemen to those disposed to act as Agents, the following *Premiums* will be paid in Cash, Silver Plate, or Agricultural Books and Implements, to those who send us the largest list of subscribers for The Cultivator for 1952, previous to the *tenth of April next.*

1. To the one sending us the largest number, with the pay in advance, at the club price of sixty-seven cents each, the sum of Fifty Dollars.
2. To the one sending us the next largest list, the sum of Forty Dollars.
3. To the one sending us the next largest list, the sum of Thirty-Five Dollars.
4. For the next largest list, the sum of Thirty Dollars.
5. For the next largest list, the sum of Twenty-Five Dollars.
6. For the next largest list, Twenty Dollars.
7. For the next largest list, Fifteen Dollars.
8. For the next largest list, Ten Dollars.
9. For the next largest list, Five Dollars.
10. To all who send us Thirty Subscribers or over, and do not receive one of the above Prizes, a copy of The Horticulturist for one year.
11. To all who send us Fifteen Subscribers, and do not receive one of the above Premiums, The Horticulturist for six months.

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Acknowledgements.—Communications have been received from T. S. Dewing, H. W. Bulkley, A. Mot, H. G., S. Clarke, G. W. Youngman, John Diehl, Elizabeth Diehl, Prof. J. P. Norton, Dr. T. W. Harris, A Lover of Farming, Frank, S. B. Buckley.

Books, Pamphlets, &c., have been received as follows: Mr. Geo. R. Russell's Address before the Norfolk Ag. Society, at Dedham, Sept. 24, 1851, from the Author.——Catalogue of the Commercial Garden and Nursery of Parsons & Co., Flushing, L. I.——Glances at Europe, by Horace Greeley, from the publishers, De Witt & Davenport, New-York.——Patent Office Report, for 1850–51—Part II. Agriculture,—from Hon. Thomas Ewbank, Com. Patents.

Winter Exhibition of the New-York State Agricultural Society.—It will be borne in mind that this Society will hold in this city, an exhibition of fat animals, dressed meats, seeds, dairy produce, fruits, &c., in connection with the Annual Meeting for the coming year—20th, 21st, and 22d of January next. The place selected for the show of live-stock, and all the articles to be exhibited, excepting fruits, is the yard and sheds belonging to Gallup's *United States Hotel*, corner of Washington and Swan streets. About $600 have been offered in premiums for this occasion, and we have no doubt that an interesting and useful exhibition will be made. The premiums not only refer to the best fat cattle and sheep to be shown alive, but also the best *carcasses*, (dressed,) of swine, Long-wooled, Middle-wooled and Cross-bred sheep—best turkeys, geese, ducks and fowls, including capons, all dressed. And in connection with the exhibition there will probably be a voluntary display of live poultry, of the celebrated varieties. The premiums embrace specimens of wheat, rye, barley, oats, corn, peas, beans, flax seed, clover seed, timothy, and other grass seeds, and hops. There is not a more favorable point in the country, than Albany, for the collection and purchase of all these articles, and we believe that the butchers, provision-dealers, seed-dealers, &c., from the south and the east, can be induced to attend this exhibition—and that a permanent Annual Fair of this kind may be established here, which may greatly conduce to the mutual benefit of the producer, dealer, and consumer. A little exertion on the part of those interested, we are confident would secure this result. Bills containing the premiums may be had gratis, on application to Mr. Johnson, the Secretary of the Society.

Address of Hon. Frederick Holbrook at the Vermont State Fair.—Seldom have we seen so much valuable thought in so small a compass. It is strictly an Agricultural Address, presenting the importance and dignity of man's sphere, as the tiller of the soil,—the scope which the varied branches of agriculture gives to superior talent,—the high purposes which should animate every farmer, and the rich reward which awaits his successful efforts. He claims that more is required of the farmer of the present day, than to have the "hard day's work in him"—that agriculture should be studied as a rational, progressive science, and have among its chief votaries, high-minded, intelligent young men, who know how to observe and compare, to invent and improve, and in what way to perfect their profession. He argues, that a mind thoroughly imbued with first principles, familiar with the laws of nature and the mode of their manifestation, would find food enough for its ambition, and sufficient range for its power, in a pursuit which was in the beginning man's only inheritance, and more than all, would preserve, by constant communion with nature, that natural simplicity, integrity and love of country, which render man worthy of a citizenship in a free and enlightened country, and those hidden virtues which make a rural home attractive and happy. We cannot but admire the spirit that breathes in the whole production, and believe that a Society, which has so auspiciously commenced its existence, will do much in carrying out the exalted aims, which its president has exhibited so profoundly, truthfully and practically.

Correction.—A letter has been received from Prof. Mapes, with reference to some remarks, (see page 339, Oct. No.,) attributed to him, in which he says, "*I feel it a duty to deny most emphatically ever having made such assertions at the Farmer's Club, or elsewhere.*" He says that he read a letter to that body from Mr. P. Mason, of Somerville, N. J., who asserts that he had raised pork at 4½ cents per pound, *on cooked corn meal*, and that when a similar pen was fed with *raw meal*, the pork cost 12½ cents per pound. Also a letter from Mr. James Campbell, of Weston, N. J., giving some results of the feeding of carrots to cattle, but that he made no mention of feeding carrots to hogs. Our authority for the statement attributed to Prof. Mapes, was a report claimed to be "official," which we found in the New-York Leader.

Fair of the American Institute.—The animal department of this exhibition the present year, is stated to have been superior to the display of any former year. We are informed by those who attended, that the cattle, sheep, and swine, comprised many of the very best specimens of the various esteemed breeds. The departments of manufactures, implements, &c., though not as full as in some former years, were considered rather superior in respect to the character of the articles. A very large number of premiums has been awarded, consisting of gold and silver medals, money, plate and books; but want of space obliges us to refer to the official Report of of the Institute for particulars.

Variety of Ducks.—We saw at Col. Sherwood's, in Auburn, last summer, a singular variety of ducks, and on inquiry were told that they were obtained from Mr. John S. Clark, of Throopsville, Cayuga county. We were so much interested in their appearance, especially from their striking resemblance to the wild black-duck, (*Anas obscura*,) that we wrote to Mr. Clark to learn their history. In reply, he said—"The ducks you inquire about, have been bred distinct from any other variety, at least twenty years. We obtained them some ten years since, in Orange county, and were then told that they were originally descended from the wild black-duck, and from the great resemblance, I have no doubt the statement is true, but cannot affirm this as a certainty. The characteristics of this variety are, nearly a uniform color, [a little darker than the wild black-duck,] good size, attaining the weight of eight pounds, dressed, at four months old, very quiet, and very prolific, one duck laying from 150 to 200 eggs in a season, with proper care. There are some in this vicinity which have lately acquired a *top-knot*, equal to any Poland fowl." We have lately received from Mr. Clark a pair of these ducks, which fully answer the above description. The drake has the top-knot in perfection. There also came with this pair, a couple of the beautiful wood, or summer duck—the handsomest of all the duck family

Singular Phenomena.—Mr. Thos Hancock. of the Ashton Nurseries, Burlington, N. J.; informs us that on the 2d of Nov., a most singular phenomena was observed at a pond adjoining his lands. The fishes, consisting of pike, sunfish, catfish, roach, eells, &c., of all sizes, from one to twenty-two inches, were dying in great numbers. He states that the water appeared unusually clear, and seemed to magnify the objects in it. The pond gets low in summer and fills up with the fall rains. With the exception of a ditch recently opened into the pond, about half a mile above the outlet, there had been nothing to affect the state of the water. Can any one account for this?

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Small Potatoes to Plant.

A writer in the Cultivator last spring, stated that small potatoes were as good to plant as large ones. I had some doubts of it at the time, and thought that inasmuch as the size of all the potatoes raised in the season of 1850, were uncommonly small, it was possibly like making a virtue of necessity to recommend small potatoes to plant. However, I thought that I would try the experiment. I therefore took four rows across my patch, side by side, land of equal quality and condition, and planted them on the 19th day of April, 1851—two rows with very small potatoes, averaging in size from a walnut to a small butternut, and put two and three in a hill. Planted the other two rows with a full common large size potato. In the course of the season, I could not discover any difference in the appearance and size of the vines, and on the first day of October, 1851, I dug the said four rows. There was a fair yield of good size potatoes in the whole; and I could not perceive any difference in the size, quality or by measure, between those rows planted with the small potatoes, and those planted with the large ones. I

I make this statement of the result from my own experiment. Yours respectfully, H. G. *West Greenfield, Saratoga co., N. Y., Oct. 5*, 1851.

◆

UNIVERSITY OF ALBANY.—We had expected to publish this month, the programme of the AGRICULTURAL DEPARTMENT of the University, but we have to send our paper to press before the arrangements for the School are entirely perfected.

◆

Horses vs. Oxen for Farm Labor.

We have always held that the expediency of using horses instead of oxen for farm labor, must depend on circumstances—such as the nature of the soil, and the general character of the surface of the farm, as to hills or plains. A writer in a late English paper, makes some sensible remarks on this subject. He says,

"By some it has been contended that oxen ought not to be used for plow or draught, and that early maturity alone is and ought to be the leading object of the grazier. Now, it is somewhat singular that although essay after essay has been written in favor of the exclusive use of the horse for the purposes of husbandry, and calculation after calculation has been supplied in support of this view, still, upon hill-farms and tenacious soils, the Sussex, Hereford, Devon, Scotch, and Welsh oxen are found successfully competing with the horse teams; practically proving their profitable employment and better adaptation to their work than the horse. The result of the inquiry instituted on the comparative merits of the horse and the ox for the purposes of draught has been highly satisfactory. Upon some lands the horse carries the palm of victory, and on others the ox is triumphant, thereby showing that each locality is the best judge of its own requirements. On the side hill, where a dead pull is required, the ox team is brought into use; while upon the light vegetable moulds the horse is every way superior."

From the Albany Argus, of Nov. 15th, 1851.

MR. RUSSELL COMSTOCK, of Mabettsville, Dutchess county, N. Y., lectured on his invaluable discovery in vegetation, in the N. Y. State Ag. Rooms, in this city, yesterday, to a very intelligent audience; several of whom were Presidents and ex-Presidents of Agricultural Societies. The opinion appeared to be general that Mr. Comstock's newly discovered principle, was of very great importance.

Many have requested me to repeat my lecture in Albany, but prior engagements occupy every day for a month or more.

I hope to lecture in Albany city, during the annual meeting of the N. Y. State Agricultural Society, on or about the 21st of January, 1852. RUSSELL COMSTOCK.

Albany, Nov. 15, 1851.

Russell Comstock's Inestimable Discovery Explained.

[A COPY.]

Chester, Orange co., N. Y., Nov. 10th, 1851.

We, the undersigned, have listened to Mr. Russell Comstock's disclosure of his discoveries in vegetation. and his successful system of cultivation, which is founded on his discoveries, with great interest; and his facts and conclusions we think are perfectly reasonable, causing conviction of the great practical utility of his system of cultivation.

His natural laws accurately direct the judicious application of labor and manures. Duty also prompts us to urge, that all our agricultural friends and lovers of science hear his lecture without delay, and at any season of the year.

Charles B Howell, John H. Vail, D. B. Foster, Gabriel Seely, Jr., P. Gregory, James W. Wood, James J. Board. Dec. 1—1t.*

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing Long Island, offer their select and unrivalled Collection of Fruit and Ornamental Trees, Shrubbery, Bulbous and other Flowering Plants, and Green-house Plants. The stock of Standard and Dwarf Pears, and of all other Fruit Trees, is very large. 100 000 Evergreen Trees, comprising every variety. 25,000 Roses, of the choicest Daily, Perpetual, and Moss varieties. 100 splendid varieties of Pœonies, 10,000 Grapevines of the finest kinds, and all the new and superior Strawberries. Descriptive Catalogues, *with reduced prices*, will be sent to post-paid applicants. Oct. 1—2t.

THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "THE CULTIVATOR," price $1 per vol.

FINE FOWLS FOR SALE.

VERY handsome specimens of the Albany Dorking, Black Poland, and Silver Spangled Poland, are for sale by
Albany, Dec. 1—1t. E. C. PLATT.

New and Important Insurance.

Northern N. York Live Stock Ins. Co., Plattsburgh N. Y.

INCORPORATED by the Legislature of the State of New-York, July, 1851. Horses, Cattle, and all kinds of Live Stock insured against Death, by the combined risks of Fire, Water, Accidents, Diseases, &c. CAPITAL, $50,000.

DIRECTORS.

James Farr,	Washington county.	Amasa C. Moore,	Clinton county.
Joseph Potter,	do	John Boynton,	do
Olif Abell,	do	Zephaniah C. Platt,	do
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JAMES FARR, President. G. MOORE, Plattsburgh, Sec'y.
A. C. MOORE, Vice-Pest. Z. C. PLATT, do Treas.
I. C. MIX, Port Ann, Gen. Agent.

October 13, 1851.

This company are now organized and ready to receive applications for insurance. It is confidently believed that the owners of valuable animals will avail themselves of the advantages offered by this mode of protection. If fire, life and marine insurances are proper and expedient, so is live stock insurance: the reasons for insurance are equally applicable to all.

The company have adopted such rates as, they believe, will furnish the means of paying ordinary losses, without resort to an assessment. But to guard against extraordinary losses, which may arise from contagious diseases or epidemics, it becomes necessary to require premium notes.

To the Owners of Horses and Live stock.

Office of the Northern New-York Live Stock Ins. Co.,
PLATTSBURGH, August 16, 1851.

The Directors of the above Company, incorporated by the Legislature of the State of New-York, at its extra session in July, 1851, respectfully request your attention to the following facts bearing on this subject.

1st. Value of this class of property. By the census of 1845, there were at that time in the State of New-York, as follows:

Horses,	
One-half a million,	505,155
Neat Cattle,	
Over two millions,	2,072,330
Cows milked,	
Nearly a million,	999,490
Sheep,	
Over six millions,	6,443,855
Hogs,	
Over one million and a half,	1,584,344

Without making any estimate of the value of this property, it is apparent that it is immense; extending to every inhabited spot, and essential to the health and comfort, almost to the existence of the inhabitants.

2d. These animals are subject to disease and accident. It is asserted by a Vermont Company, engaged in the Live Stock Insurance, as a fact which cannot be disputed, that the aggregate loss upon this species of property throughout New-England, is *greater* than the losses by fire; at all events, it is a fact undoubted that the annual loss is very great, and the owner is left unprovided with any means of security against the hazard incident to this description of property.

3d. The knowledge of this risk is one of the leading hindrances to improvement in the breed of that useful and noble animal, the horse. Men of capital are slow to invest large sums in a valuable animal, whose loss they must every day risk, to the amount often from five hundred to a thousand dollars, in every valuable breeding horse.

With the ample security to be afforded by sound Insurance Companies, the investment of capital in horses and live stock may be made as safe and safer than the carrying of freight on the seas and inland waters. Marine Insurance has rendered this last business steady and profitable; while without it, it would want the confidence which that branch of business now commands. The absence of this Insurance in the case of live stock is universally felt, while the owner of real estate can command half or two-thirds of its value when needed for an emergency.

While the owner of the ship, "the play thing of the wind and waves," may obtain any reasonable advance; the owner of equally valuable property, invested in horses and cattle, cannot obtain a dollar. The only exception being fat cattle destined for market. In vain does the owner of the horse appeal to his industry or usefulness. The answer is, that his property is liable to disease and accident, and that as security it is utterly worthless.

4th. The Insurance principle comes in, and does for him what Life Insurance has done for the young beginner in trade, taking away the risk arising from the uncertainty of life.

It will do for him what Fire Insurance has done for the owner of personal property; placing him nearly on a level with the owner of real estate.

Your aid is respectfully solicited in behalf of this company, the first chartered in this state for this object. The Directors intend it shall be prudently conducted, and one which shall deserve the confidence of the public.

Terms of Insurance will be furnished by the agents of the company.
GEORGE MOORE, Secretary. JAMES FARR, President.
Dec. 1—6t.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

ANDRE LEROY,

Nurseryman, at Angers, France,

RETURNS his thanks for past favors, and begs leave to inform his friends and the public in general that his catalogue for 1851 is now ready and can be had on application to his agent Mr. E. Bossange, 138 Pearl street, New-York. He offers for sale a large collection of the finest fruit, forest and ornamental trees of all kinds, shrubs, roses, &c. &c. The superior quality of his trees is already known in the United States, and the experience he has of packing up trees to be sent abroad gives him a noted advantage over all other Nurserymen. Orders had better be sent early, although his Nursery is the largest in France, the number of some new kinds of trees are limited and some of the last orders sent last year could not be executed. The terms, prices, charges, and all desirable information will be found in his catalogue. The trees will be shipped to the care of his agent in New-York, who will attend to the receiving and forwarding. For further particulars and for the catalogue apply to

Nov. 1, 1851—3t. E. BOSSANGE, 138 Pearl street, N. Y.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres; about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—N. Y. *Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States.

Just published by CHARLES SCRIBNER,
Oct. 1—3t. 145 Nassau st., New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2 inch pipes,	one foot in length,	per thousand,			$8 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.
May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

WOMBAUGH & WHEELER,
Oct. 1—4t. Real Estate Agents, Columbus, O.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton*, *Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square*, *Boston*, will be promptly executed.

Reference to Mr. J. VAN DUSEN, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

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THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE,

Edited by A. J. DOWNING, Newburgh,

Author of Landscape Gardening, Fruits and Fruit Trees of America, Cottage Residences, Country Houses, &c., &c.,

Is published monthly, at the office of The Cultivator, Albany, by Luther Tucker, Proprietor.

This popular publication, which is gradually extending its influence throughout the country, and is becoming indispensible to the tasteful Gardener, the Fruit Culturist and the Floriculturist, will be continued as heretofore, under the Editorship of Mr. Downing, whose ability and taste in all matters of country life, are unequalled by any writer of the present day.

The extended and valuable correspendence of The Horticulturist, presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. To all persons alive to the improvement of their Gardens, Orchards, or Country Seats—to Scientific and practical Cultivators of the Soil—to Nurserymen and Commercial Gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable.

A new volume (the 7th.) commences with the January number for 1852; and it will be the constant aim of the Editor and the Publisher, by every means in their power, to render it still more worthy, by every practicable improvement, of the liberal patronage it is receiving.

☞ All letters on business must be addressed to the Proprietor LUTHER TUCKER, Albany, N. Y., and Editorial correspondence to be addressed to the Editor, A. J. DOWNING, Esq , Newburgh, N. Y.

Terms.—Each number contains 48 pages, embellished with a Frontispiece and numerous Illustrations, printed on the finest paper, and in the best manner. Price, $3 a year—Two copies for $5.

SOUTH DOWN SHEEP.

THE subscriber has for sale a few Ewes, from his breeding flock, (*which contains none but selected sheep*,) price $15 a head.

Also a few Ewe Lambs, price $6 a head.

These sheep are in fine condition and health, and are bred exclusively from the flocks of John Ellman and Jonas Webb, both well known English breeders. His stock buck of last year is also for sale, price $50.

FRAN'S. ROTCH.

Morris, Otsego Co., N. Y., Dec. 1—1t.

Spanish and Shanghae Fowls.

THE subscriber has for sale fowls of these celebrated breeds. The Spanish are from three to seven months old, and the oldest of the pullets have laid regularly for two months. Both cocks and hens are of a glossy black color, with the large single comb, and white ear-patch which distinguish this race. No fowls, probably, combine in so great a degree as these, the advantages of fine quality of flesh and abundant production of eggs, with great beauty of form and plumage. The Shanghaes comprise both the red or yellow, and the white. The latter have bred this year entirely uniform in color—no variation from pure white having appeared in several broods.

N. B. In a previous advertisement it was stated that the Spanish fowls would be exhibited at the State Fair at Rochester. They were *not* shown there—an accident preventing them from being sent.

Albany, Dec. 1—tf. J. M. LOVETT.

Dana's M[illegible]ck Manual.

JUST published, by Jas. P. Walker, Lowell, Mass., a new, revised, and greatly enlarged edition of the Muck Manual for Farmers, by Dr. Samuel L. Dana. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. Pease & Co.; in New-York, by Mr. C. M. Saxton. Oct. 1—3t.

United States Agricultural Warehouse and Seed Store.

THE subscribers solicit the attention of the public to the large and varied assortment of Agricultural and Horticultural Implements, Field, and Garden Seeds, which they have constantly on hand, and offer for sale at the lowest prices, and on the best terms. Persons in want of any articles in their line, would do well to call upon them before purchasing elsewhere. A descriptive Catalogue will be sent gratis upon application, post-paid.

N. B. Guano, Bone Dust, and other fertilizers.

JOHN MAYHER & CO.

Dec. 1—tf. No. 197 Water-St., New-York.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the armer who attends it can understand the whole, and apply it in his own experience.

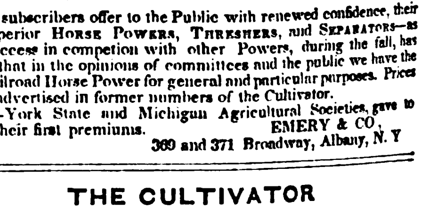
More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—8t.



EMERY & CO.'S Premium Horse Power.

THE subscribers offer to the Public with renewed confidence, their Superior Horse Powers, Threshers, and Separators—as their success in competion with other Powers, during the fall, has shown that in the opinions of committees and the public we have the best Railroad Horse Power for general and particular purposes. Prices are as advertised in former numbers of the Cultivator.

New-York State and Michigan Agricultural Societies, gave to above their first premiums.

EMERY & CO.,
369 and 371 Broadway, Albany, N. Y

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be paid in advance.

Advertisements.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.